MONTHLY WEATHER REVIEW.

JUNE, 1894.

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INTRODUCTION.

The REVIEW for June, 1894, is based on reports from 3,064 stations occupied by regular and voluntary observers. These reports are classified as follows: 148 reports from Weather Bureau stations; 41 reports from U. S. Army post surgeons; 2,059 monthly reports from State weather service and voluntary observers; 34 reports from Canadian stations; 205 reports through the Southern Pacific Railway Company; 468 marine reports through the co-operation of the Hydrographic Office, Navy Department, and "New York Herald Weather Service;" monthly reports from 36 U. S. Life-Saving stations; 73 reports from navigators on the Great Lakes; monthly reports from local services established in all States and Territories; and international simultaneous observations. Trustworthy newspaper extracts and special reports have also been used.

The WEATHER REVIEW for this month has been prepared under the general editorial supervision of Prof. Cleveland Abbe. The statistical tables are furnished by the Division of Records and Meteorological Data, in charge of Mr. A. J. Henry, acting chief of that division.

CHARACTERISTICS OF THE WEATHER FOR JUNE, 1894.

The most prominent meteorological features of the month of June were the absence of extensive and destructive cyclonic storms in the United States; the occurtence of the groups of violent local storms, many of them having the characteristics of tornadoes, on the 27th in Minnesota, South Dakota, and Kansas, and the areas of severe thunderstorms on the 20th in Nebraska and Iowa, and the 24th to 27th, from Missouri to Ohio; the abnormal high average temperatures of the upper Lake and North Dakota regions, and the corresponding low temperatures of the middle plateau region; the large rainfall of the middle Rocky Mountain slope, and the large deficiency of the upper Mississippi Valley and east Gulf States.

ATMOSPHERIC PRESSURE.

[In inches and hundredths.]

The distribution of mean atmospheric pressure reduced to sea level, as shown by mercurial barometers not reduced to standard gravity and as determined from observations taken daily at 8 a. m. and 8 p. m. (seventy-fifth meridian time), during June, 1894, is shown by isobars on Chart II. That portion of the reduction to standard gravity that depends on latitude is shown by the numbers printed on the right-hand border. This Chart also gives the so-called resultant wind directions for this month, based on the data given in Table IX of this REVIEW.

During the current month of June the pressures at sea level have been highest on the immediate coast of the south Atlantic States, where it has averaged 30.10. Pressure has been lowest in Assiniboia and Saskatchewan, 29.75, or less; an equivalent area of low pressure has also prevailed at the head of the Gulf of California. These two regions of low pressure represent the trough existing between the high pressures on the Atlantic and Pacific oceans.

The normal distribution of atmospheric pressure and normal resultant wind direction for the month of June were approximately shown on Chart V of the REVIEW for June, 1893, as computed by Prof. H. A. Hazen, and are not now reproduced. As compared with the normal for June, the mean pressure for the current month was in excess throughout the greater part of the United States, the maximum excess being 0.07 in Arkansas and on the coast of the south Atlantic States. The pressure was below the normal in the British Possessions and the northern border of the United States. The area over which the deficit was 0.05 to 0.08 covered South Dakota, northern Montana, Athabasca, and Alberta.

As compared with the preceding month of May pressure had risen throughout the Middle States, Ohio Valley, and southward to the Gulf, the maximum rise being 0.10 on the coast of North Carolina. Pressure had fallen over the Missouri Valley, eastern Rocky Mountain slope, and northward to British America, the maximum fall being from 0.10 to 0.18 in Manitoba, North Dakota, Assiniboia, and Athabasca.

DIURNAL VARIATIONS.

The systematic periodic diurnal variations of pressure are shown by the hourly means given in Table VI.

AREAS OF HIGH AND LOW PRESSURE.

The following sections give some details as to the phenomena attending the individual areas of high and low pressure. The storm warnings officially issued either by the Weather Bureau through the general forecast official at Washington, or by the respective local forecast officials, are enumerated in connection with the respective areas of disturbance.

MOVEMENTS OF CENTERS.

The following table shows the date and location of the

center at the beginning and ending of each area of high or low pressure that has appeared on the U. S. Weather Maps during the month, together with the average daily and hourly velocities. The monthly averages will differ according as we consider each path as a distinct unit, or give equal weight to each hour of observation; in the first case the monthly average is taken by paths, in the latter case by hours.

Movements of centers of areas of high and low pressure.

Number.	First observed.			Last observed.			Path.		Average velocities.	
	Date.	Lat. N.	Long. W.	Date.	Lat. N.	Long. W.	Length.	Duration.	Daily.	Hourly.
Low areas.		°	°		°	°	*Miles.*	*Days.*	*Miles.*	*Miles.*
I	1, a. m.	26	78	2, a. m.	25	81	400	1.0	400	17
II	1, a. m.	46	74	4, p. m.	48	64	1,500	3.5	486	20
III	2, p. m.	46	121	4, p. m.	50	114	1,400	2.0	700	29
IV	1, a. m.	53	108	1, p. m.	51	102	400	0.5	.....	.....
V	6, a. m.	36	80	6, p. m.	35	75	300	0.5	.....	.....
VI	8, p. m.	49	70	10, a. m.	49	59	550	1.5	366	15
VII	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
VIII	9, p. m.	52	114	13, p. m.	41	104	1,200	4.0	300	13
IX	10, p. m.	46	69	.....	.....	.....	.....	.....	.....	.....
X	14, a. m.	53	106	17, p. m.	47	59	2,450	3.5	700	29
XI	16, a. m.	41	97	19, p. m.	48	75	1,450	3.5	414	17
XII	17, p. m.	54	116	18, p. m.	55	105	450	1.0	450	10
XIII	19, a. m.	42	105	21, a. m.	53	107	400	2.0	200	8
XIV	21, a. m.	38	101	.....	.....	.....	.....	.....	.....	.....
XV	21, p. m.	52	115	23, a. m.	46	97	950	1.5	633	26
XVI	23, a. m.	39	100	24, p. m.	37	105	650	1.5	432	10
XVII	23, p. m.	54	114	25, p. m.	52	98	800	2.0	400	17
XVIII	24, p. m.	50	87	25, p. m.	50	74	700	1.0	700	29
XIX	26, a. m.	55	111	27, a. m.	54	101	450	1.0	450	19
XX	26, p. m.	40	102	30, p. m.	54	65	2,200	4.0	550	23
XXI	28, a. m.	44	67	.....	.....	.....	.....	.....	.....	.....
XXII	28, p. m.	54	111	30, p. m.	56	105	600	2.0	300	13
XXIII	29, p. m.	31	85	30, a. m.	28	80	300	0.5	.....	.....
XXIV	28, p. m.	55	115	30, a. m.	53	102	600	1.5	400	17
Sums	.....	.....	.....	.....	.....	.....	17,750	38.0	7,881	.....
Mean of 17 paths	.....	.....	.....	.....	.....	.....	.....	.....	464	19
Mean of 38 days	.....	.....	.....	.....	.....	.....	.....	.....	467	19
High areas.										
I	1, a. m.	39	99	3, a. m.	31	94	800	2.0	400	17
II	2, a. m.	46	109	3, a. m.	48	100	900	1.0	900	38
III	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
IV	4, a. m.	53	102	9, a. m.	35	75	2,500	5.0	500	21
V	8, a. m.	39	123	9, a. m.	41	113	500	1.0	500	21
VI	11, a. m.	33	81	16, a. m.	34	79	1,800	5.0	360	15
VII	12, a. m.	43	125	18, a. m.	52	87	2,200	6.0	367	15
VIII	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
IX	23, p. m.	50	66	24, a. m.	44	63	500	0.5	.....	.....
Sums	.....	.....	.....	.....	.....	.....	9,200	20.5	3,127	.....
Mean of 6 paths	.....	.....	.....	.....	.....	.....	.....	.....	521	21.7
Mean of 20.5 days	.....	.....	.....	.....	.....	.....	.....	.....	449	18.7

HIGH AREAS.

Owing to the northerly declination of the sun during the month of June, the so-called equatorial belt of calms lies decidedly north of its position in December and the large areas of high pressure, representing parts of the so-called tropical belt of high pressure, lie still farther north of their winter position; moreover, these centers over the Pacific and Atlantic oceans, respectively, are farther apart than in January, that is to say, the Pacific area lies farther to the west and the Atlantic area farther to the east and, as a consequence, the motions of the small areas of high and low pressure that circulate around these larger areas are slower as they move from the Pacific southeastward into the interior of North America, and northeastward from that interior toward the Atlantic. The troughs and belts of low pressure, both over the Rocky Mountain region and British America, are now more frequent and persistent than the areas of high pressure, still the latter frequently occur, and by their movements and temperatures show that some of them represent slowly descending air that is kept cool by radiation, while others represent rapidly descending air that is warmed by compression faster than it can be cooled by radiation. The low temperature is characteristic of the high areas that descend from the northwest as offshoots from the Pacific high; the high temperature is characteristic of the areas that move up from the southeast or southwest as the more rapidly descending portions of the tropical areas and especially of that over the Atlantic. The fact that the North American high areas of June and July do not present pressures as high as those that occur in January is largely a result of the higher summer temperature on the land as compared with the ocean, causing a withdrawal of the warmer air from the Eastern and Western continents and a corresponding rise of pressure over the Atlantic, the Pacific, and the Arctic regions.

I.—This was central in Kansas July 1, a. m., and moved southeastward until the 3d, a. m., when it was central in Louisiana.

II.—This was central on the 2d, a. m., in Montana; it stretched southward as a ridge connecting with high area No. I on the 2d, p. m., but afterward extended southeastward and on the 3d, a. m., was central in North Dakota, after which it disappeared.

III.—This number is given to the high pressure off the Pacific coast of California and which occasionally pushes eastward over that State. The principal dates of high pressures on this coast were: 8th, a. m., 30.30, at Eureka, with cold, light winds, clear weather, and occasional frosts in Nevada and California; 12th, a. m., 30.26, at Portland, Oreg., and 30.24 at Eureka, with light winds, clear, cold weather, and frosts in Nevada; 20th, a. m., 30.18, at Portland, Oreg.; 23d, a. m., 30.12, at Portland, Oreg.; 24th, p. m., 30.10, at Eureka; 26th, a. m., 30.18, at Portland, Oreg., and 30.14 at Roseburg and Eureka; 26th, p. m., 30.20, at Eureka; 30th, a. m., 30.24 at Portland, Oreg., and 30.22 at Seattle. These dates of highest pressure on the Pacific coast represent also dates on which areas of low pressure prevailed in the interior of the continent and also generally dates on which small areas of high pressure detaching themselves from the larger Pacific area began to move eastward over the Rocky Mountain region.

IV.—This appeared on the 4th, a. m., in Manitoba, and by the 5th, a. m., pressure had increased, with northerly winds and light frost, in North Dakota. The central highest pressure moved southward, and by the 6th, a. m., was central in Iowa; 6th, p. m., in Missouri; 7th, a. m., in northern Arkansas; 7th, p. m., in western Tennessee; after which it moved eastward, and by the 8th, p. m., had joined the Atlantic high off the North Carolina coast. This movement, therefore, represents in general the same southeastward movement of masses of cold, dry air that we are familiar with in the winter season; it may, in fact, be considered either as a part of the horizontal circulation around the tropical high pressure of the Pacific Ocean or as a part of the vertical circulation by reason of which the warm air of the torrid zone, after rising and overflowing toward the pole, cools and descends slowly, reaches the surface at about N. 50° and returns as an underflow toward the equator.

V.—This area began as a high pressure steadily encroaching on the coast of California until the 8th, a. m., when pressure was highest in that region. By the 8th, p. m., pressure was highest in Nevada; 9th, a. m., in Utah, this being the eastern extremity of the high pressure over the Pacific and forming a ridge that very nearly connected the latter with high area No. IV over the south Atlantic States, but this entirely disappeared before the 10th, a. m., being replaced by a general depression from Mexico to British America.

VI.—This represents the westward encroachment upon the south Atlantic States of the Atlantic area of high pressure. On the 11th, a. m., pressure was highest in South Carolina, and by the 12th, a. m., in western Kentucky; 13th, a. m., in Illinois and Missouri, but by the 14th, a. m., in Maryland and New Jersey, having been reinforced by an additional inflow from the Atlantic Ocean. The center now moved

southwest into Virginia, and by the 16th, a. m., was again in South Carolina.

VII.—This appeared on the 12th, a. m., in Oregon, moved very slowly eastward, and was in Montana on the 15th, a. m., at which time the ridge of high pressure stretched from Alberta to the Gulf of Mexico and the south Atlantic States. No. VII represents the northern end of this ridge, which was soon separated from the southeastern portion and moved eastward into Manitoba as a separate area of high pressure. During the 17th and 18th this area moved eastward and disappeared in Ontario.

VIII.—This number is given to the high pressure along the Atlantic coast, due to the westward movement of the Atlantic area of high pressure. The principal encroachments of this area may be catalogued as follows: 6th, a. m., at Jupiter, 30.12; 8th, a. m., Charleston and Savannah, 30.16; 9th, a. m., Augusta, 30.26; 10th, a. m., Cape Hatteras, 30.34; 12th, a. m., Augusta, 30.28; 14th, a. m., New York and Block Island, 30.32; 18th, a. m., Cape Hatteras, 30.18 to Jupiter, 30.16; 20th, a. m., Hatteras to Savannah, 30.22; and so continued, with little change, until the 25th, a. m., after which pressure was generally low on the Atlantic coast, while it rose in the interior and Rocky Mountain plateau region, but on the 29th, a. m., it was again high (30.34) in Nova Scotia and Newfoundland.

IX.—This appeared suddenly on the 23d, p. m., at the mouth of the St. Lawrence, moving rapidly southward in the rear of a depression (XI) that was moving eastward over the Gulf of St. Lawrence. It was central off the coast of Nova Scotia on the 24th, a. m., after which it stretched southwest and merged into the Atlantic low. In connection with the rising pressure, high northeast winds occurred at coast stations, and at 10.30 a. m. northeast storm signals were ordered for Narragansett and Woods Holl sections.

LOW AREAS.

The month of June has been marked by the appearance of a number of ill-defined and minor areas of low pressure in addition to a few that developed into important storms. It is believed that all depressions that are marked "Low" on the Daily Weather Map have been included in the following list:

I.—This depression appeared on the 1st, a. m., east of southern Florida, and after moving westward apparently disappeared over that peninsula on the 2d, p. m.

II.—This was a continuation of No. XII of the month of May. On the 1st, a. m., it was central in Montreal, and after moving westward it turned eastward and finally disappeared on the 4th, p. m., over the Gulf of St. Lawrence.

In connection with low area No. II the following wind signals were ordered: 1st, 10.30 a. m., Portland, Me., to Sandy Hook, change to northwest; 9.30 a. m., Buffalo, cautionary southwest; 11.30 a. m., Lake Huron and Sault Ste. Marie, cautionary southwest; 2d, 9.30 a. m., Buffalo, continue cautionary southwest.

III.—This was the southern end of a depression moving southeastward into Oregon. The central lowest pressure was, on the 3d, a. m., in Oregon, but on the 3d, p. m., in British Columbia, and from the 3d to the 7th this depression extended as a long trough north and south, with one or more ill-defined centers. By the 8th, p. m., it had become central in Manitoba, and a steady inflow of cold air from the southwest prevailed over the Pacific coast and Rocky Mountain regions. The map of the 9th, a. m., showed the isobars again stretching rapidly southeastward into Nebraska, with high winds and rains to the westward, but on the 9th, p. m., the center was again in Manitoba, after which it disappeared from our weather map, apparently by merging into No. VII.

In connection with low area No. III the following wind signals were ordered: 8th, 11 p. m., Red Wing, storm southeast; 9th, 10.45 p. m., Red Wing and Duluth to Alpena, cautionary southeast; 10th, 11.15 p. m., Corpus Christi, storm southeast; 10.20 p. m., Red Wing, cautionary southeast.

IV.—This depression appeared on the 1st, a. m., in Saskatchewan, moved southeastward, and disappeared on the 1st, p. m., in Manitoba.

V.—This appeared on the 6th, a. m., in North Carolina, moved eastward, and disappeared on the 6th, p. m., off that coast.

VI.—After low area No. II passed over the Gulf of St. Lawrence on the 4th, pressure continued low in that region until the 7th, and in fact it was low during that period from Newfoundland westward to the Rocky Mountains. On the 7th pressure fell rapidly in Nova Scotia, New Brunswick, and Newfoundland, and the p. m. map seems to show a hurricane developing east of Nova Scotia and central in about N. 44°, W. 59°; but this must have moved northward and broken up over Newfoundland on the 8th and 9th, leaving a depression that is numbered VI, whose lower edge was at the mouth of the St. Lawrence on the 8th, p. m., and which, moving eastward, disappeared on the 10th, a. m., over Newfoundland. These depressions were undoubtedly only subsidiary features on the southern side of the more extensive depression that apparently prevailed from Montana and Alberta eastward to Labrador and Iceland, and subsequently moved southeastward over European Russia.

In connection with low area No. VI the following wind signals were ordered: 7th, 10 a. m., Port Huron, cautionary southwest; 10 a. m., Alpena and Sault Ste. Marie, cautionary northwest; 11 p. m., Red Wing and Duluth, cautionary southeast.

VII.—This number is given to the low pressure that occasionally stretches northward over Arizona toward Oregon. The principal minima of the month at Yuma were as follows: 2d, p. m., 29.75, at which time low No. III was simultaneously stretching southward from British Columbia; 4th, p. m., 29.72, at which time low No. III was still central in Alberta; 10th, p. m., 29.53, at which time low No. III had disappeared in the neighborhood of Hudson Bay, while low No. VII was central in Assiniboia, and low pressure prevailed from Saskatchewan to the Gulf of California, with high pressure over the south Atlantic States and the coast of northern California; 15th, p. m., 29.70, at which time the trough of low pressure had stretched northward from the Gulf of California to Oregon and beyond; 21st, p. m., 29.69, at which time this same pressure also prevailed at Tucson, and an extensive depression covered the plateau region from Mexico northward to Alberta; 26th, p. m., 29.73, at this time the Gulf of California formed the southern limit of a depression that covered the entire region between the western slope of the Rocky Mountains, the eastern slope of the Alleghenies, Mexico on the south, and Hudson Bay on the north; 30th, p. m., 29.73, at which time also areas of low pressure occupied the greater part of the region just indicated.

It is difficult to determine to what extent the low pressures in the Rocky Mountain and plateau regions must be considered as an apparent result of the reduction to sea level and to what extent a deficit of pressure really exists. It is evident from the direction of the wind that a small deficit must exist and would be shown even if observations were all reduced to a uniform level of 5,000 feet instead of sea level. It is, however, not neccessary to assume that this large area of low pressure within the North American Continent is a simple static result of the rarity of the heated air; on the contrary, numerous areas of high pressure pass over the continent accompanied by the highest temperatures, and it is evident that these high temperatures are the direct result of the more rapid descent and the warming by compression of the air in the neighborhood of the highest pressure. These

areas of high pressure, therefore, represent the regions in which the overflow from the tropical and equatorial regions descends to the earth's surface at higher latitudes. The effect of high temperature and rarified air over the interior of the continent is to diminish the tendency of areas of high pressures to descend into this region, and when they do so they consist of warm air that has come from a short distance and descended rapidly instead of, as in the winter season, consisting of air that has come from a long distance and descended slowly and is, therefore, cold. The characteristic distinction between the motion of the air in the high areas of summer and winter is, therefore, that in the latter the air is descending less rapidly than in the former, which distinction is due to the fact that the soil most heated by the sun in the summer time is in a zone nearly 50° north of the corresponding zone in winter time. This is a part of the general distinction between tropic and temperate climates, as shown in the diagram on p. 262, Am. Met. Journ., 1892, Vol. VIII.

VIII.—This was central on the 9th, p. m., in Alberta, having undoubtedly moved southeastward from British Columbia or Alaska while high No. III was approaching the coast of California and Oregon. In connection with low No. III there was maintained an extensive depression in the interior of the country until the 13th, at which time this central depression disappeared in western Nebraska. Its shape was generally that of a long trough, stretching north and south, whose central lowest pressure rapidly changed its position from one end to the other. High southeasterly winds usually prevailed on the easterly side of this trough and northerly winds on its west side, and the highest temperatures of the month occurred in Illinois, Wisconsin, and North Dakota on the 12th to the 14th in connection with these winds.

IX.—This depression appeared on the map of the 10th, p. m., at which time it was central in Maine, but it moved rapidly eastward or was broken up and merged into No. VI.

X.—This was central in Manitoba on the 14th, a. m., and apparently represents the northern end of the trough No. VIII, and was at the same time on the southern border of a low area extending further northward. After a little delay it moved rapidly eastward and disappeared over Newfoundland on the 17th.

XI.—This was central on the 16th, a. m., in eastern Nebraska, and after moving a little to the south, turned northeastward, passing over Lake Michigan on the 17th, and finally disappearing on the 19th in lower Canada.

In connection with low area No. XI the following wind signals were ordered: 17th, 10.20 p. m., Milwaukee, Chicago, Grand Haven, and Green Bay, storm northwest; 10.20 p. m., Alpena, storm northeast; 10.20 p. m., Port Huron, storm southeast; 18th, 12.10 p. m., lakes Erie and Ontario, cautionary southwest; 19th, 10.30 p. m., Duluth and Red Wing, storm southeast.

XII.—On the 16th, a. m., an area of low pressure existed in Nevada as a portion of a trough reaching northward into British Columbia. On the 16th, p. m., pressure was lowest in Alberta, but on the 17th, a. m., in Washington and Alberta. The center of this extensive depression appears to have first become visible as it moved southeastward on the 17th, p. m., in Alberta; it now moved eastward on the northern border of our stations, until on the 19th, a. m., a more important secondary (XIII) was formed in Wyoming, at the southern border of its trough-like extension.

XIII.—This was central in Wyoming on the 19th, a. m. It moved from north to northeast, reaching Manitoba on the 20th, p. m., and accompanied by severe local storms. It appeared then to have passed northward beyond our stations, and was probably broken up and merged into the general depression of that region.

XIV.—This appeared as a low pressure in western Kansas on the 21st, a. m., and may be considered as due to the cyclonic circulation of the winds on and at a slight elevation above the earth's surface; but this was not sufficiently decided to perpetuate the low area, and its further development ceased.

XV and XVI.—No. XV appeared on the 21st, p. m., in Alberta. It moved east and then south, and was central on the 23d, a. m., in North Dakota, with a subsidiary low in western Kansas. The main depression now filled up, becoming a trough on the 23d, p. m., extending northward to the low pressure over the Canadian provinces, while the southern subsidiary depression, which is numbered XVI, after moving about irregularly, disappeared in Colorado on the 24th, p. m.

XVII.—Appeared on the 23d, p. m., in Alberta and was apparently the western part of the general depression of the interior. By the 25th, a. m., it had advanced eastward into Manitoba, after which it disappeared.

XVIII.—This appeared on the 24th, p. m., north of Lake Superior and was apparently the eastern end of the general depression that included Nos. XVII and XVIII. After moving east, it turned northeast and disappeared on the 25th, p. m., near the mouth of the St. Lawrence.

XIX.—This appeared in Athabasca on the 26th, a. m., and after moving southward into Alberta, it disappeared on the 27th, a. m., in Saskatchewan.

XX.—This was the trough that, on the 26th, p. m., connected No. XIX and No. VII. It was at that time central in Colorado. The 27th, p. m., it had moved into the southern portion of Minnesota and extended as a trough northward through Manitoba. On the 28th, a. m., it was central in Manitoba, after which it moved north and east beyond our stations and disappeared on the 30th, p. m. in Labrador.

In connection with low area No. XX the following wind signals were ordered: 27th, 10.30 p. m., Red Wing, lakes Huron, Michigan, and Superior, storm southeast; 28th, 10.25 a. m., Lake Erie, storm southeast; 10 a. m., Chicago and Milwaukee, change to storm southwest; 6.30 p. m., Milwaukee section, Green Bay and section, Grand Haven and section, Mackinaw section, Lake Huron, Marquette, Sault Ste. Marie, and Houghton section, change to storm southwest; 6.30 p. m., Duluth and Ashland section, change to storm northwest.

XXI.—This appeared on the 28th, a. m., off the coast of Maine, but disappeared without any further development.

XXII.—This appeared on the 28th, p. m., in Alberta as the eastern end of No. XX, which was then north of Lake Superior. It continued on the northern border of our stations and was central north of Manitoba on the 30th, p. m.

XXIII.—This was central in northern Florida on the 29th, p. m. It moved southeastward over the peninsula and disappeared on the 30th.

In connection with low area No. XXIII the following wind signal was ordered: 30th, 5 p. m., Charleston, storm northeast.

XXIV.—This appeared on the 28th, p. m., in Alberta and Athabasca, forming part of the general depression that extended southward to Mexico and northward to Hudson Bay. By the 30th, p. m., this depression was central in northern Manitoba, with a subsidiary low in eastern Nebraska and Arizona, while high pressures prevailed in Washington and near Newfoundland. The general distribution of pressure was, therefore, at this time very characteristic of this month, viz, high on the Atlantic and Pacific coasts, but low in the interior, with several special depressions.

NORTH ATLANTIC METEOROLOGY.

[*Pressure in inches and millimeters; wind-force by Beaufort scale.*]

NORMAL CONDITIONS.

The normal barometric pressure for June over the North Atlantic Ocean, as deduced from international simultaneous meteorological observations taken at Greenwich noon and not reduced to standard gravity, is highest, 30.20 to 30.25 (767 to 769), over a region stretching between N. 30° to N. 41° and W. 18° to W. 51°; a corresponding region of high pressure exists over the North Pacific Ocean between N. 20° to N. 40° and west of W. 140°. The region of lowest pressure, 29.80 to 29.75 (757 to 755), over the North Atlantic Ocean covers an oval that includes Iceland and southern Greenland and stretches between longitude 0 and W. 75° and N. 60° and N. 70°; in the North Pacific Ocean the lowest pressure, 29.70 (754), includes the southern portion of Kamchatka and stretches between E. 152° and E. 164° and N. 50° to N. 55°. The isobars of the Northern Hemisphere for the month of June show a continued steady diminution in the barometric pressure over North America and Asia, and especially in the Arctic regions, such as to show a strong tendency toward the formation of systems of isobars and winds concentric with the North Atlantic and North Pacific oceans. The meteorological centers lie east of the geographic centers, leaving regions of low pressure extending from the central portions of the North American Continent northward over the polar regions and thence southward into India.

As compared with May the normal pressures for June show no change over a belt extending from Texas to Kansas, and thence eastward over North Carolina to the mid-Atlantic at N. 35°, W. 50°, thence northeast to Great Britain, northward to Greenland, and south-southeast to Sicily. Pressures have fallen 0.20 in the Arctic region between N. 62° at Great Slave Lake, in North America, and N. 76° in Nova Zembla.

The normal zone of maximum frequency of paths of storm centers passes northeastward from northern China to Kamchatka, and thence through the central portions of Bering Sea to Alaska, Stikine, and British Columbia. Up to this point the number of storm centers, per month of June per quadrilateral of 5°, has diminished from 1.5 in the China Sea to 0.4 in British Columbia, but it now begins to rapidly increase as the path of maximum frequency moves due eastward from Oregon to Newfoundland, and reaches its maximum, 3.2, on Lake Superior, after which it diminishes as the path proceeds toward Scotland, where the frequency is about 1.8. This variation in the frequency of storm centers, along the path of maximum frequency, is not to be attributed to any great variation in the number of cyclonic centers, but, first of all, to their feebleness during the month of June, by reason of which many of them are broken up and perhaps fail to be counted, and second, especially to the fact that the directions of motion are erratic. In general, the larger disturbances that we recognize as cyclonic systems on the daily weather map are initiated by the overflow and descent polewards of the upper colder air from the high regions ordinarily called tropical highs; but they do not develop unless the cold, dry air thus descending is sufficient in quantity to elevate the surface stratum which it underruns sufficiently to form abundant cloud and rain, and this condition is not likely to be fulfilled in the month of June, when the solar heat is still occupied in melting the snow, ice, and frozen ground of the Arctic regions.

The normal rate of progress of storm centers during June is 25 miles per hour in the United States, 16 miles over the Atlantic, 18 in Europe, 23 over the seas of China and Japan, 26 in the Bering Sea, and 20 in the Pacific Ocean between the Alaska peninsula and the coast of Oregon. The average motion easterly is 21 miles per hour. Of those tropical storms that move westward in the regions of the West Indies and Phillipine Islands before re-curving to the north and east the average movement westward is also 21 miles per hour.

NORTH ATLANTIC STORMS.

The following paragraphs give some account of the areas of low pressure and strong winds on the North Atlantic Ocean during June, 1894. Daily charts are compiled at the Weather Bureau showing the atmospheric conditions over the United States, Europe, and the Atlantic Ocean, as nearly as practicable at Greenwich noon, and afford a basis for approximating the locations and paths of the more important areas of high and low pressure.

A. This was a continuation of *K* of the North Atlantic series for May; it was central on the 1st, at N. 51°, W. 23°, while a minor depression was then central near the south coast of Ireland. By the 2d, noon, the latter depression had moved northward and increased in intensity while the former was dying out. By the 3d, noon, only a feeble trace of *A* was left at about N. 50° and W. 20°. By the 4th, noon, the minor depression had disappeared, as it passed northward over Scotland, and *A* had again grown into importance, being central at N. 49°, W. 11°. On the 5th, noon, *A* was central in the Irish Sea, at about W. 7°, N. 53°, at which time a series of depressions extended northeastward, respectively over the North Sea and the Gulf of Finland, with rather high pressures to the north and south.

B. This is area No. II, of the U. S. series, and was central in the St. Lawrence Valley on the 1st. After retreating as it were to the northward and moving slowly east it passed over Labrador on the 4th and was central on the 5th near the Straits of Belle Isle. Pressure continued high over the Atlantic to the southward, and *B* kept to the north of our reports. On the 6th it was central near N. 56°, W. 40°, and on the 8th, N. 55°, W. 23°, while a more severe cyclonic storm had developed to the westward. On the 9th *B* was central over the Irish Sea, and on the 10th and 11th it merged into the general trough that extended from Great Britain eastward into Russia, out of which there developed a general cyclonic storm that was central on the 12th over the southern Baltic, and from the 13th to the 16th passed southeastward over Russia to the Caspian Sea. A depression which thus expands or contracts and changes from a feeble circulation to an important storm with every alternation in the nature of the region over which it passes, and the inflowing air that feeds it, may be considered as mechanically the same cyclonic whirl, although some will regard the storms into which it develops from time to time as separate storms. There is in fact data to show that similar depressions in their progress from Europe eastward sometimes, eventually, affect the climate of India and bring to that region the conditions that favor the renewed initiation of a storm center.

C. This appeared on the 6th at the mouth of the St. Lawrence, and by the 7th, noon, apparently united with a depression that had formed off the middle Atlantic coast. By the 8th, noon, there was a well-marked storm center over Newfoundland, and reports of high gales were received from the steamships *Pomeranian* (2 p. m., N. 48° 14′, W. 49° 00′, 29.37, NW., 8), *Peruvian* (noon, N. 48° 14′, W. 48° 52′, 29.32, WNW., 8), *Hungaria* (6 a. m., N. 47° 08′, W. 22° 42′, 29.85, NW., 9), *Wandrahm* (4 a. m., N. 47° 00′, W. 59° 00′, 29.28, NW., 8), *Habana* (midnight, N. 53° 00′, W. 37° 00′, 29.38, WSW., 10). By the 9th, noon, *C* had moved northeastward toward Iceland and beyond our reports, but on the 10th, noon, a depression,

with occasional gales, was midway between Iceland and Ireland and undoubtedly represents the region occupied by *C*.

D. This appeared on the 9th at the mouth of the St. Lawrence, moved slowly east-northeast, and disappeared on the 13th south of Iceland. The areas *B*, *C*, and *D*, represent whirls inside of the general depression that extended over British America and the North Atlantic Ocean from the 5th to the 13th, and gradually advanced eastward, filling up at its western extremity more rapidly than at its eastern.

E. On the 13th this depression appeared, central at N. 37°, W. 55°, in connection with a feeble cyclonic system and about 1,500 miles southeast of the center of *D*. By the 14th, noon, pressure had fallen at the Bermudas, but risen decidedly over Nova Scotia, and the central depression was at about N. 38°, W. 51°. It now moved rapidly northeastward and seems to have joined with another depression, the combined result forming on the 15th a V-shaped depression at about N. 51°, W. 38°. This passed eastward on the 16th, lingered near Scotland on the 17th and 18th, while the general low pressure extended eastward over Europe and westward over British America. This condition continued until the 24th, the barometer being relatively high over southern Europe and westward to Florida, but low over the Atlantic north of N. 50°. This is the normal or typical condition of the general circulation of the atmosphere at this season. Several special depressions appeared in the general area of low pressure moving eastward from the Rocky Mountain slope in conformity with the general circulation of the air, but not developing into cyclonic storms, and lowest pressure generally remained south of Iceland. The principal exception to this statement was the following area.

F. This passed over the mouth of the St. Lawrence on the 22d, noon, and by the 24th, noon, was central at about N. 45°, W. 49°, at the southern apex of a V-shaped depression. On the 25th, noon, it was central at N. 50°, W. 33°; 26th, noon, N. 34°, W. 30°. By the 27th, noon, it had entirely disappeared and an area of high pressure had pushed east over the middle Atlantic and north over western Europe, so that by the 27th the pressure of 30.50 prevailed from the Bermudas eastward, as also over the extreme north of Scotland. Between these areas of high pressure the low pressure *F* seems to have tarried until the 30th, when it was central at about N. 47°, W. 23°.

LOW PRESSURES IN THE CARIBBEAN SEA.

The equatorial belt of low pressure extending from the Pacific eastward over Central America into the Caribbean Sea has, during the current month, several times seemed about to give rise to a cyclonic storm. The northeast trade of the Caribbean Sea is delicately balanced against the southeast to southwest winds on the Pacific side of this portion of the continent, and the mountainous ridges serve as the barrier between them; under these circumstances a comparatively slight barometric depression suffices to initiate a severe local storm, and several such seem to have occurred during the month. On the 13th a gale was reported at Panama. On the 18th Mr. Rafael Innguera, the observer at Santiago de Cuba, reported that the weather has been very wet and rainy throughout the island this season; the barometer has been in a continual fluctuation; the cirri and cirrocumuli in the upper strata of the atmosphere have made an unusually early appearance; the movements of these clouds are from the SSE., the S., and the SSW., and the rainy weather sets in, with winds from these same directions; the last period of rainy and stormy weather traversed the island on the 4th, 5th, and 6th of June, causing heavy rain and floods and much damage on the south side of the island. Mr. Innguera considers that these phenomena, especially the appearance of the cirrus clouds, may indicate that there will be early hurricanes this autumn.

On the 23d the same observer at Santiago reported that "the barometer rises and falls continuously; cirrus clouds are moving from S. ¼ SE., SSE., SE. ¼ S.; the weather is becoming very hot and sultry; heavy seas from ESE. to S.; there is no doubt that a hurricane depression exists in the South Sea." The weather map shows that at this time, and indeed from the 19th to the 25th, pressure had been quite high at the Bermudas (30.45) and about average (29.95) in Panama and Costa Rico, so that a steady northeast wind prevailed over the West Indies and Caribbean Sea during the first part of this period, gradually veering to southeast during the latter part. As the cirrus clouds at Santiago usually come from the southwest and west it follows that either the south and southeast cirri observed by Innguera were unusually low, or else, which is more likely, that the lower atmosphere moving from the northeast was unusually deep, so that the cirri were formed in the region of overflowing southerly currents and did not reach up into the region of southwest currents.

OCEAN ICE IN JUNE, 1894.

The following table shows the southern and eastern limits of the regions within which icebergs or field ice were reported for June during the last 12 years:

Southern limit.			Eastern limit.		
Month.	Lat. N.	Long. W.	Month.	Lat. N.	Long. W.
	° ′	° ′		° ′	° ′
June, 1883	40 28	51 45	June, 1883	48 14	42 43
June, 1884	41 42	47 49	June, 1884	44 00	45 23
June, 1885	39 38	48 12	June, 1885	45 14	41 12
June, 1886	40 30	53 00	June, 1886	49 15	40 00
June, 1887	40 40	48 34	June, 1887	43 22	39 19
June, 1888	43 38	43 24	June, 1888	43 38	43 24
June, 1889	42 54	49 54	June, 1889	46 57	40 29
June, 1890	40 01	52 00	June, 1890*	46 08	37 07
June, 1891	40 15	50 24	June, 1891	44 15	43 47
June, 1892	41 44	50 40	June, 1892	45 50	40 46
June, 1893	42 08	53 19	June, 1893	47 20	44 19
June, 1894	40 10	57 30	June, 1894	49 20	36 30
Mean	41 09	50 33	Mean	46 08	41 16

*On the 10th a small block of ice was reported in N. 46° 28′, W. 28° 34′.

The limits of the region within which icebergs or field ice were reported for June, 1894, are shown on Chart I by crosses. The southernmost ice reported, an ice floe about 70 feet square, observed on the 21st in the position given, was about one degree south of the average southern limit, and the easternmost ice reported, one large berg and a quantity of field ice on the 25th in the position given, was about four and three-fourth degrees east of the average eastern limit.

OCEAN FOG FOR JUNE, 1894.

The limits of fog belts west of the fortieth meridian, as reported by shipmasters, are shown on Chart I by dotted shading. East of the fifty-fifth meridian fog was reported on 22 dates; between the fifty-fifth and sixty-fifth meridians on 24 dates; and west of the sixty-fifth meridian on 16 dates. Compared with the corresponding month of the last six years, the dates of occurrence of fog east of the fifty-fifth meridian numbered 11 more than the average; between the fifty-fifth and sixty-fifth meridians, 11 more than the average; and west of the sixty-fifth meridian, 1 more than the average.

28th.—During a dense fog a schooner went ashore at Grand Manan Island.

29th.—During a dense fog a schooner went ashore at Campobello Island, N. B.

WATERSPOUTS.

Waterspouts have been reported on the following dates:

3d.—*Key West, Fla.*—The forenoon was clear, midday was partly cloudy; wind increased from light to fresh and veered from northwest to northeast; light showers from 3.10 to 3.50; no decided change in temperature; pressure increased steadily.

Two large waterspouts were observed at about 3 p. m. a short distance to the northeast; cloudiness increased between 5 and 6, followed by a thunderstorm moving from east to west.

17th.—*New Orleans, La.*—At 12.55 distant thunder was heard; loudest at 1.14 p. m.; last heard at 2.10 p. m.; storm moved from the southeast to the northwest; direction of wind before the storm, southeast; after the storm, south; temperature before the storm, 90; after the storm, 73; rain began at 1.05 p. m. and ended at 1.40 p. m. About 1.30 p. m., on Lake Pontchartrain, 5 miles from the city, a waterspout was observed. The wind previously had been light and died away to a calm. Dark and threatening clouds spread over the lake and several bright flashes of lightning were seen. The first evidence of the waterspout was a mass of spray whirling in a large circle, which soon increased in rapidity; then a thin, long line of white vapor was observed to descend from the darkest cloud, and as it neared the surface of the lake the mass of spray whirled faster. As the waterspout passed the club house a loud roaring noise was heard. The waterspout passed up the lake and slowly dissolved.

18th.—*Fort Morgan, Ala.*—Weather squally and showery all the early morning. Rain in northwest from about 6 to 7 a. m. At 6 a. m. a large waterspout formed outside, about 5 miles off the shore, moving toward south-southwest and seemed to be a solid connection with the gulf for about 25 or 30 minutes; 8 a. m. light sprinkle of rain here; squalls all around; raining very hard in bay and gulf, with thunderstorms.

24th.—*Oak Hill Post-office, Mosquito Lagoon, Volusia Co., Fla.*—Temperature of the air, 80; wind south; a small waterspout was seen on the lagoon, 2½ miles distant, in which the spiral motion was plainly visible with a field glass. 27th, temperature about 84, wind southeast; a waterspout of large dimensions was observed on the ocean near the horizon; it had a funnel shape, but was too far distant to observe the spiral motion. The first one seen was straight like a ribbon.

TEMPERATURE OF THE AIR.

[*In degrees Fahrenheit.*]

The distribution of the monthly mean temperature of the air over the United States and Canada is shown by the dotted isotherms on Chart II; the lines are drawn over the high irregular surface of the Rocky Mountain plateau, although the temperatures have not been reduced to sea level, and the isotherms, therefore, relate to the average surface of the country occupied by our observers; such isotherms are controlled largely by the local topography, and should be drawn and studied in connection with a contour map.

NORMAL TEMPERATURE.

In Table II, for voluntary observers, the mean temperature is given for each station, but in Table I, for the regular stations of the Weather Bureau, both the mean temperatures and the departures from the normal are given for the current month. In the latter table the stations are grouped by geographical districts, for each of which is given the average temperature and departure from the normal; the normal for any district or station may be found by adding the departures to the current average when the latter is below the normal and by subtracting when it is above.

MONTHLY MEAN TEMPERATURE.

For the regular stations of the Weather Bureau the monthly mean temperature is the simple mean of all the daily maxima and minima; for voluntary stations a variety of methods of computation is necessarily allowed, as shown by the notes appended to Table II.

During June, 1894, the highest mean temperatures were: Yuma and Corpus Christi, 79.4; Brownsville, 82.0; Key West, 80.0.

The lowest mean temperatures were: Eastport, 52.6; Point Reyes Light, 52.2; Tatoosh Island, 53.0; Eureka, 54.4; and at Canadian Stations: Anticosti, 51.8; Edmonton, 58.4.

DEPARTURES FROM NORMAL TEMPERATURE FOR JUNE, 1894.

As compared with the normal for June the temperatures for the current month were decidedly in excess in the Lake region, the Dakotas, the Mississippi and Missouri valleys; but were deficient in the south Atlantic and Gulf States, the entire plateau region, and Pacific States. The greatest excesses were: 7.1, St. Vincent; 7.3, Winnipeg; 5.4, Moorhead; 4.9, Duluth and St. Paul; 5.8, Marquette; 5.6, Green Bay; 6.1, Milwaukee. The largest deficits were: 5.4, Yuma; 5.3, Tucson; 4.4, Los Angeles; 5.0, Winnemucca; 5.2, Red Bluff; 4.5, Portland, Oreg.

The departures from normal temperature for the current month, by districts, are as follows:

Positive departures: New England, 1.0; middle Atlantic coast, 1.0; Ohio Valley and Tennessee, 1.7; lower Lake region, 2.9; upper Lake region, 5.1; North Dakota, 5.4; upper Mississippi, 4.5; Missouri Valley, 2.4; northern slope, 0.2.

Negative departures: South Atlantic coast, 0.7; Key West, 2.7; east Gulf States, 1.1; west Gulf States, 1.4; middle slope, 0.4; southern slope (Abilene), 0.5; southern plateau, 3.6; middle plateau, 4.4; northern plateau, 2.5; north Pacific coast, 1.2; middle Pacific, 3.5; south Pacific coast, 4.0.

The following table shows for certain stations, as reported by voluntary observers, the normal and extreme mean temperatures for this month:

State and station.	(1) Normal for the month of June.	(2) Length of record.	(3) Mean for June, 1894.	(4) Departure from normal.	(5) Extreme monthly means for June.			
					Highest.	Year.	Lowest.	Year.
Arizona.	°	*Years*	°	°	°		°	
Fort Apache	71.5	22	65.1	— 6.4	78.0	1876	63.6	1884
Whipple Barracks	69.4	23	61.6	— 7.8	78.9	1876	61.6	1894
Arkansas.								
Keesees Ferry	76.9	12	74.7	— 2.2	80.2	1885	73.8	1893
California.								
Riverside	71.0	12	63.8	— 7.2	78.1	1883	63.8	1894
Colorado.								
Las Animas	69.9	11	68.2	— 1.7	72.5	1887	68.1	1884
Florida.								
Merritts Island	78.7	12	79.1	+ 0.4	83.4	1890	73.8	1892
Georgia.								
Forsyth	76.9	20	80.5	+ 3.6	81.9	1880, 1881	74.2	1884
Idaho.								
Boise Barracks	66.3	20	61.7	— 4.6	74.3	1871	60.0	1891
Fort Sherman	60.6	11	.....	.....	64.4	1882	55.0	1893
Indiana.								
Lafayette	70.6	12	72.7	+ 2.1	75.7	1890	66.2	1889
Iowa.								
Cresco	66.1	21	69.4	+ 3.3	72.0	1873	62.8	1877
Kansas.								
Eureka Ranch	75.5	11	74.3	— 1.2	80.0	1890	70.8	1892
Independence	74.8	22	78.1	+ 3.3	79.0	1872	70.8	1889
Salina	75.3	10	75.9	+ 0.6	79.3	1890	71.2	1891
Louisiana.								
Grand Coteau	79.6	11	77.5	— 2.1	82.0	1891	77.5	1894
Maine.								
Orono	62.1	23	60.9	— 1.2	64.8	1884, 1889	57.5	1881
Maryland.								
Cumberland	68.9	23	72.2	+ 3.3	74.0	1874	65.3	1878
Michigan.								
Kalamazoo	67.6	17	70.8	+ 3.2	70.8	1894	63.7	1889
Missouri.								
Sedalia	74.3	12	77.2	+ 2.9	80.5	1890	71.6	1891
Montana.								
Fort Custer	63.8	12	67.1	+ 3.3	67.1	1894	60.8	1891
Nebraska.								
Fort Robinson	67.1	9	67.0	— 0.1	71.7	1887	62.5	1891
Genoa (near)	69.6	18	73.7	+ 4.1	73.7	1894	66.4	1877

Departures from normal temperature—Continued.

State and station.	(1) Normal for the month of June.	(2) Length of record.	(3) Mean for June, 1894.	(4) Departure from normal.	(5) Extreme monthly means for June.			
					Highest.	Year.	Lowest.	Year.
Nevada.	°	Years	°	°	°		°	
Browns	75.8	23	.....	.....	83.7	1873	69.0	1882
Carson City	64.2	16	54.9	− 9.3	69.9	1876	54.9	1894
New Hampshire.								
Hanover	64.3	23	65.4	+ 1.1	68.8	1876	61.5	1881
New Mexico.								
Fort Wingate	69.6	22	64.4	− 5.2	75.2	1881	63.6	1891
New York.								
Cooperstown	64.2	23	65.6	+ 1.4	70.0	1876	59.0	1881
Plattsburg Barracks	64.9	23	66.6	+ 1.7	68.8	1872	60.8	1881
North Carolina.								
Lenoir	70.5	22	72.1	+ 1.6	75.0	1874	63.6	1887
Oklahoma.								
Fort Reno	75.1	10	76.6	+ 1.5	76.9	1890	72.5	1889
Fort Sill	77.8	22	76.0	− 1.8	83.2	1881	73.8	1889
Fort Supply	75.8	14	75.4	− 0.4	80.7	1893	72.6	1891
Oregon.								
Bandon	56.4	10	57.0	+ 0.6	59.8	1891	54.1	1887
Pennsylvania.								
Dyberry	64.3	21	64.8	+ 0.5	66.8	1884	60.4	1881
Grampian	66.8	23	69.0	+ 2.2	71.7	1892	61.3	1878
Wellsboro	65.5	15	65.6	+ 0.1	74.6	1883	61.1	1881
South Carolina.								
Statesburg	76.2	13	78.0	+ 1.8	80.5	1881	72.4	1884
South Dakota.								
Fort Sully	69.1	23	73.4	+ 4.3	76.1	1871	63.6	1877
Texas.								
Austin	83.0	21	81.7	− 1.3	85.9	1881	78.2	1893
Silver Falls	76.6	7	.....	.....	79.5	1893	71.8	1889
Utah.								
Terrace	73.0	22	.....	.....	79.3	1878	60.8	1885
Vermont.								
Strafford	65.7	21	63.8	− 1.9	71.1	1884	58.4	1881
Virginia.								
Dale Enterprise	72.5	14	70.2	− 2.3	78.5	1890	68.2	1882
Washington.								
Fort Townsend	58.3	21	55.5	− 2.8	61.6	1888	52.6	1893
West Virginia.								
Parkersburg	.....	.....	.....	.....	.....	.....	.....	.....
Wisconsin.								
Madison	67.3	21	71.4	+ 4.1	72.4	1873	63.5	1889
Wyoming.								
Fort Washakie	62.3	10	60.4	− 1.9	68.9	1887	58.5	1892

YEARS OF HIGHEST MEAN TEMPERATURE FOR JUNE.

The mean temperature for June, 1894, was the highest on record at regular Weather Bureau stations, as shown in the following table, which also gives the highest previous record:

Stations.	June, 1894.		Highest previous.	
	Mean temperature.	Departure from normal.	Temperature.	Year.
Des Moines, Iowa	74.4	4.1	73.2	1890
Dubuque, Iowa	74.4	5.6	73.6	1890
Chicago, Ill	71.4	5.1	70.5	1884
Huron, S. Dak	70.4	4.1	70.2	1893
Valentine, Nebr	70.4	3.4	69.8	1893
Green Bay, Wis	70.1	5.6	69.4	1890
Milwaukee, Wis	68.8	8.1	67.9	1890
Port Stanley, Wash	68.0	4.9	67.4	1890
Duluth, Minn	62.7	4.9	61.3	1872

YEARS OF LOWEST MEAN TEMPERATURE FOR JUNE.

The mean temperature for June, 1894, was the lowest on record at regular Weather Bureau stations, as shown in the following table:

Stations.	June, 1894.		Lowest previous.	
	Mean temperature.	Departure from normal.	Temperature.	Year.
Sacramento, Cal	64.8	−4.2	65.8	1884
Red Bluff, Cal	69.1	−5.2	69.6	1884
Winnemucca, Nev	57.8	−5.0	58.0	1891
Carson City, Nev	56.6	−4.1	58.8	1891
San Francisco, Cal	55.9	−3.9	56.0	1880

MAXIMUM TEMPERATURE.

The maximum temperatures of the month at regular stations of the Weather Bureau are given in Table I, from which it appears that the highest maxima were: Yuma, 108; Tucson, 104; Little Rock and Dodge City, 102; Mobile, Pensacola, Abilene, and Red Bluff, 101; El Paso, Sioux City, Columbia, S. C., and Montgomery, 100. The lowest maxima were: Key West, 87; Hatteras, 84; Eastport, 72; San Francisco and Fort Canby, 69; Tatoosh Island, 68; Eureka, 65; Point Reyes Light, 64.

YEARS OF HIGHEST MAXIMUM TEMPERATURE FOR JUNE.

The maximum temperature for June was the highest on record at regular Weather Bureau stations, as shown in the following table:

Stations.	June, 1894.		Highest previous.	
	Maximum.	Excess above previous record.	Temperature.	Year.
Mobile, Ala	101	+ 1	100	*
Pensacola, Fla	101	+ 4	97	1881
New Orleans, La	97	0	97	1881
Little Rock, Ark	102	+ 4	98	1882
St. Louis, Mo	99	0	99	1881
Springfield, Ill	97	0	97	1890
Green Bay, Wis	94	0	94	1890
Huron, S. Dak	98	+ 1	97	*
Port Huron, Mich	94	0	94	1890
Detroit, Mich	94	0	94	*
Erie, Pa	92	+ 1	91	*
Rochester, N. Y	95	0	95	1888
Baltimore, Md	98	0	98	1893

* Frequently.

MINIMUM TEMPERATURE.

The minimum temperatures of the month at regular stations of the Weather Bureau are given in Table I, from which it appears that the lowest minima were:

Northfield, 30; Huron, Baker City, and Wichita, 31; St. Vincent, 32; Sault Ste. Marie and Alpena, 34.

The highest minima were: Key West, 69; Port Eads, 68; Jupiter, 66; Tampa, 65; Corpus Christi and Galveston, 64; Jacksonville, 62.

YEARS OF LOWEST MINIMUM TEMPERATURE FOR JUNE.

The minimum temperatures for June were the lowest on record at regular Weather Bureau stations as shown in the following table:

Stations.	June, 1894.		Lowest previous.	
	Minimum.	Deficit below previous record.	Temperature.	Year.
Fort Canby, Wash	44	0	44	*
San Francisco, Cal	47	0	47	*
Red Bluff, Cal	46	0	46	1892
Carson City, Nev	27	− 4	31	1892
Los Angeles, Cal	46	0	46	1892
San Diego, Cal	50	0	50	1884
Huron, S. Dak	31	− 3	34	1883
Fort Smith, Ark	49	− 1	50	*
Little Rock, Ark	51	0	51	1889
Green Bay, Wis	38	0	38	1888
Milwaukee, Wis	38	− 2	40	*
Chicago, Ill	40	0	40	1875
Grand Haven, Mich	39	0	39	*
Alpena, Mich	34	0	34	*
Port Huron, Mich	35	− 2	37	*
Detroit, Mich	38	0	38	*
Toledo, Ohio	41	− 1	42	*
Sandusky, Ohio	40	− 2	42	1889
Cleveland, Ohio	48	− 3	41	1889
Erie, Pa	40	− 2	42	1879
Northfield, Vt	30	0	30	1891
Atlantic City, N. J	47	0	47	1879
Baltimore, Md	47	0	47	1891
Norfolk, Va	49	− 4	53	1884
Kittyhawk, N. C	52	0	52	1884
Raleigh, N. C	46	− 3	49	1889
Knoxville, Tenn	43	− 1	44	1889
Columbus, Ohio	41	− 1	42	1889
Indianapolis, Ind	39	− 2	41	*
Springfield, Ill	40	− 2	42	1889
St. Louis, Mo	44	− 3	47	1889
Cairo, Ill	46	0	46	1889
Nashville, Tenn	42	− 4	46	1889
Key West, Fla	69	0	69	1887

* Frequently.

THE DAILY AND MONTHLY RANGES OF TEMPERATURE.

The greatest daily range of temperature is given for each of the regular Weather Bureau stations in Table I, which also gives data from which may be computed the extreme monthly ranges for each station.

Greatest daily ranges.—Huron, 50; St. Vincent and Olympia, 46; Tucson, 44; Sioux City and Idaho Falls, 42; Northfield, Moorhead, and Denver, 41; Sault Ste. Marie and Laramie, 40.

Small daily ranges.—Port Eads, 13; Galveston and Hatteras, 14; Key West and Tatoosh Island, 15; Eureka, 16; Fort Canby, 17.

Greatest monthly ranges.—Huron, 67; St. Vincent, 62; Moorhead, 60; Tucson, 58; Nashville, 56; Carson City and Red Bluff, 55.

Small monthly ranges.—Key West and Port Eads, 18; Point Reyes Light, 20; Jupiter, 21; Galveston and Corpus Christi, 23; and Hatteras, 26.

DIURNAL PERIODICITY.

The regular diurnal period in temperature is shown by the hourly means given in Table V for all stations having self-registers.

LIMITS OF FREEZING TEMPERATURE.

The region within which the air has had a freezing temperature at some time during the month is bounded by the minimum isotherm of 32°. During June this included only the high stations of Boise City, Idaho Falls, Laramie, Winnemucca, and Carson City. The minimum for Pikes Peak was 42°.

ACCUMULATED TEMPERATURES.

From January 1 to the end of the current month the average temperature for each geographical district was above or below the normal by an amount that is given in the last column of the following table. The total accumulated departures from normal temperatures, as given in the second column, may be used for comparison with the departures of current conditions of vegetation from the normal conditions.

Districts.	Accumulated departures.		Districts.	Accumulated departures.	
	Total.	Average.		Total.	Average.
	°	°		°	°
New England	+7.7	+1.3	Key West	−1.5	−0.9
Middle Atlantic	+12.2	+2.0	Southern plateau	−13.0	−2.2
South Atlantic	+7.7	+1.3	Middle plateau	−9.3	−1.6
East Gulf	+2.6	+0.4	Northern plateau	−5.4	−0.9
West Gulf	+3.1	+0.5	Northern Pacific	−9.3	−1.6
Ohio Valley and Tennessee	+10.3	+1.7	Middle Pacific	−13.4	−2.2
Lower Lake	+17.6	+2.9	Southern Pacific	−16.8	−2.8
Upper Lake	+21.6	+3.6			
North Dakota (Ex. NW.)	+16.5	+2.8			
Upper Mississippi	+17.5	+2.9			
Missouri Valley	+13.6	+2.3			
Northern slope	+1.6	+0.3			
Middle slope	+3.9	+0.6			
Southern slope (Abilene)	+5.3	+0.9			

PERIODS OF HIGH TEMPERATURE.

The maximum temperatures of June generally occurred at the close of the month, but at numerous stations they occurred between the 12th and 17th, and at other places on the 2d and 4th. They may be grouped as follows: 2d, maxima of from 80, at Roseburg, to 93, at Walla Walla, occurred in Washington, Oregon, Idaho, northern Utah, and Nevada. 3d and 4th, this warm wave had extended eastward to central Montana and Wyoming. 12th, maxima of 96 to 98 occurred in the Dakotas and northern Minnesota, as also at isolated stations in Kentucky, Indiana, Ohio, and Michigan. 13th, maxima of 94 to 100 occurred in the south Atlantic States. 14th and 15th, maxima of 90 to 97 occurred in Illinois, Wisconsin, and northern Michigan. On the 23d and 24th the principal maxima of the month, from 91 to 98, occurred in southern New England, the middle Atlantic States, Virginia, and North Carolina. 27th to 30th, the most extensive area of high temperature prevailed from California eastward to the Mississippi, bringing the maxima of the month to most of the stations in this section on the 30th. Maxima exceeding 100 were reported in Arizona, New Mexico, Kansas, Arkansas, Alabama, Iowa, and Florida.

AREAS OF 20° RISE IN TWENTY-FOUR HOURS.

The daily weather charts show by heavy dotted lines the regions over which the temperature has risen 20° in the preceding twenty-four hours. The occurrence of such rapid rises becomes less frequent as we approach the midsummer season, and the following is a list of these areas, with the lengths of their diameters, in miles:

(A) 7th, 8 p. m., 100 by 100, in northern Illinois.

(B) 10th, 500 by 200, in northern Minnesota, Dakota, and Manitoba.

PERIODS OF LOW TEMPERATURE.

The minimum temperatures of the month occurred principally during the first week, except on the Pacific coast, where they were nearer the middle of the month. The dates of occurrence may be grouped as follows: On the 10th, in western Washington and Oregon; 11th, in eastern Washington, Oregon, Idaho, and northern California; 12th, in Nevada; 13th, in southern California; 14th and 15th, in western Montana. On the 13th and 14th the minimum of the month occurred throughout southern Florida and southern New England. On the 1st or 2d the lowest temperature of the month occurred throughout the southern slope, the Gulf States, the south Atlantic States, Tennessee, Kentucky, southern Ohio, and Virginia. On the 5th, in connection with high area No. IV, the minimum of the month occurred over the Dakotas, Minnesota, northern Wisconsin, and Lake Superior. By the 6th, a. m., this cool wave had brought the minimum of the month to Nebraska, northern Kansas, Iowa, Missouri, Illinois, Indiana, Michigan, northern Ohio, and western New York. By the 7th and 8th this cool wave had moved eastward over the middle Atlantic States and New England, but the southward flow of the cold air also brought the minimum of the month to Hatteras and Southport, on the coast of North Carolina.

AREAS OF 20° FALL IN TWENTY-FOUR HOURS.

A fall of temperature of 20°, or more, in twenty-four hours is not called a cold wave by the Weather Bureau unless the temperature falls below 40°, and is, therefore, likely to cause a frost injurious to vegetation, but all falls of 20° are indicated on the Daily Weather Map by inclosing the areas within which they occur by heavy dotted lines, and the following list enumerates these regions for the month of June:

(A) 5th, p. m., 400 by 150, Illinois.

(B) 5th, p. m., 200 by 250, eastern Colorado.

(C) 6th, p. m., 500 by 200, Virginia, North and South Carolina.

(D) 7th, p. m., 300 by 150, western Montana.

(E) 9th, 8 p. m., 400 by 200, North Dakota, Manitoba, and Assiniboia.

(F) 10th, p. m., 150 by 150, Nevada.

(G) 24th, a. m., 150 by 100, on the coasts of Maine and Massachusetts. This was in connection with the southwestward movement of the air from high area No. IX, bringing the cool ocean temperatures to the heated surface of the land.

DESTRUCTIVE FROSTS.

Destructive frosts were reported on the following dates at the localities mentioned in the respective States. From an agricultural point of view, the intensity of a destructive frost

depends upon the injury done to the plants, but this depends, of course, entirely upon the nature of the plant. The reports here tabulated generally state that damage was done to tender vegetation, and it can generally be assumed that a frost, which is known to have injured the tenderest early vegetables, as raised in the forcing houses of the gardeners, is likely to be reported as a destructive frost. By a heavy frost is meant one that injures fruit and grains that are raised in the open air under more natural conditions; even in the latter case, however, the extent of the injury will largely depend upon the location of the field, viz, whether in a quiet valley or on an elevated spot. In general, therefore, the tabulation of frosts must be considered as simply equivalent to showing the places and dates at which the surface of the leaves cooled down to 32° F., or lower, before the cooling was stopped by the formation of dew, fog, or cloud, or by the wind.

5th.—North Dakota: New Salem.

6th.—Toledo, Ohio; the minimum temperature at the station was 41.2, being the lowest on record for June. Illinois: Riley, Winnebago. Wisconsin: Meadow Valley; frost on both 5th and 6th. Illinois: Princeton, Champaign, Rockford, Jacksonville, Decatur, Greenup. Ohio: Cleveland, said to be the heaviest frost since 1859 in northwestern Ohio.

7th.—Indiana: Indianapolis and Kokomo. Ohio: Hedges.

8th.—Colorado: T. S. Ranch. Connecticut: Falls Village.

11th.—Nevada: Reno.

14th.—Wyoming: Saratoga.

20th.—Arizona: Show Low.

PRECIPITATION.

[*In inches and hundredths.*]

The distribution of precipitation for the month of June, 1894, as determined by reports from about 2,000 stations, is exhibited on Chart III. The numerical details are also given in Tables I, II, and III; the first of these gives the average departures from the normal for each district, whereas the average departure for each State is given in the chapter on State Weather Services.

NORMAL PRECIPITATION FOR JUNE.

The normal precipitation for the month of June is less than 1 in the middle plateau, the middle Pacific and southern Pacific regions. Between 1 and 2 in the southern and northern plateau regions; from 2 to 4 in the north Pacific, northern slope, middle slope, and southern slope regions, North Dakota, upper and lower Lake regions, middle Atlantic and New England regions; from 4 to 6 in the Ohio Valley and Tennessee, the Gulf States, and south Atlantic States.

PRECIPITATION FOR CURRENT MONTH.

The total precipitation for June was heaviest in the Florida Peninsula, where it was from 10 to 15; a region exceeding 8 occurred in southern Louisiana and the adjacent coast of Texas. Small areas of 6 occurred in western Minnesota, the eastern portion of North Dakota, and South Dakota, also in western Missouri, eastern Kansas, and Nebraska; only a trace of rain was reported from Arizona, southern California, and southern New Mexico.

CURRENT DEPARTURES FROM NORMAL PRECIPITATION.

The precipitation for June was most decidedly in excess of the normal in the middle Atlantic slope, where it was about twice the average amount. It was most decidedly deficient in the east Gulf States, where it was only one-third of the usual amount. The largest deficits were: Pensacola, 5.3; Little Rock, 4.3; Mobile, 4.2. The largest excesses were Galveston and Augusta, 4.9.

Considered by districts, the precipitation for June, 1894, when compared with the normal for the month, furnishes the departures given in Table I, as expressed in inches, and also the corresponding following percentages, as found by dividing those departures by the normal precipitation for June (precipitation is in excess when the percentage of the normal exceeds 100):

Below the normal: New England States, 40; middle Atlantic States, 60; south Atlantic States, 71; Key West, 80; east Gulf States, 38; west Gulf States, 72; Ohio Valley and Tennessee, 63; lower Lake region, 79; upper Lake region, 95; upper Mississippi Valley, 37; Missouri Valley, 92; northern slope, 92; southern plateau, 62; northern plateau, 77.

Above the normal: North Dakota, or the extreme northwest, 120; middle slope, 204; southern slope (Abilene), 122; middle plateau, 272; north Pacific, 115; middle Pacific, 128; southern Pacific, 100.

The following table shows for certain stations, as reported by voluntary observers, the normal and extreme total precipitation for this month:

State and station.	(1) Average for the month of June.	(2) Length of record.	(3) Total for June, 1894.	(4) Departure from average.	(5) Extremes for June.			
					Greatest.		Least.	
					Amt.	Year.	Amt.	Year.
Arizona.	*Inches.*	*Years*	*Inches.*	*Inches.*	*Inches.*		*Inches*	
Fort Apache	0.60	18	0.00	— 0.60	3.27	1882	0.00	†
Whipple Barracks	0.15	23	T.	— 0.15	1.24	1872	0.00	†
Arkansas.								
Keesees Ferry	4.95	12	2.06	— 2.89	7.14	1882	2.06	1894
California.								
Riverside	0.06	13	0.04	— 0.02	0.52	1884	0.00	*
Colorado.								
Las Animas	0.69	11	0.03	— 0.66	2.79	1884	0.05	1890
Florida.								
Merritts Island	7.40	16	6.77	— 0.63	14.28	1889	3.32	1878
Georgia.								
Forsyth	4.82	20	2.21	— 2.61	11.14	1886	1.48	1879
Idaho.								
Boise Barracks	0.91	20	0.19	— 0.72	3.41	1884	T.	1893
Fort Sherman	1.33	10	.....	.....	2.11	1885	0.16	1882
Indiana.								
Lafayette	4.19	12	3.54	— 0.65	9.10	1882	1.93	1893
Iowa.								
Cresco	5.37	21	3.00	— 2.37	11.71	1890	2.46	1887
Kansas.								
Independence	5.13	22	2.63	— 2.50	11.26	1881	2.05	1875
Salina	3.67	10	3.97	+ 0.30	6.11	1883	0.92	1892
Louisiana.								
Grand Coteau	6.43	11	2.33	— 4.10	11.31	1886	2.33	1894
Maine.								
Orono	3.51	23	2.90	— 0.61	5.96	1892	0.73	1880
Maryland.								
Cumberland	3.82	22	1.64	— 2.18	10.08	1892	0.86	1885
Michigan.								
Kalamazoo	4.78	18	1.64	— 3.14	8.10	1883	1.64	1894
Missouri.								
Sedalia	5.43	15	6.46	+ 1.03	9.24	1891	1.11	1890
Montana.								
Fort Custer	2.73	13	2.03	— 0.70	5.02	1891	0.90	1889
Nebraska.								
Fort Robinson	2.99	10	3.16	+ 0.17	11.91	1892	0.60	1890
Genoa (near)	4.24	18	4.80	+ 0.56	8.48	1891	1.50	1892
Nevada.								
Browns	0.23	23	.....	.....	1.13	1878	0.00	†
Carson City	0.41	16	1.14	+ 0.73	1.97	1884	0.00	1893
New Hampshire.								
Hanover	3.69	22	2.12	— 1.57	7.42	1892	1.74	1873
New Mexico.								
Fort Wingate	0.61	22	0.00	— 0.61	3.15	1873	0.00	†
New York.								
Cooperstown	4.15	23	2.62	— 1.53	7.31	1872	1.94	1873
Plattsburg Barracks	2.98	23	3.52	+ 0.54	7.62	1892	1.27	1881
North Carolina.								
Lenoir	4.27	22	3.95	— 0.32	10.30	1884	0.90	1881
Oklahoma.								
Fort Reno	4.54	11	1.10	— 3.44	10.33	1885	0.28	1888
Fort Sill	3.71	22	1.04	— 2.67	8.16	1885	0.21	1881
Fort Supply	2.75	14	1.31	— 1.44	5.44	1885	0.40	1874
Oregon.								
Bandon	1.76	16	4.47	+ 2.71	6.11	1881	0.12	1883

Departures from average precipitation—Continued.

State and station.	(1) Average for the month of June.	(2) Length of record.	(3) Total for June, 1894.	(4) Departure from average.	(5) Extremes for June.			
					Greatest.		Least.	
					Amt.	Year.	Amt.	Year.
Pennsylvania.	*Inches.*	*Years*	*Inches.*	*Inches.*	*Inches.*		*Inches*	
Dyberry	2.94	23	2.86	− 0.08	6.07	1892	1.13	1873
Grampian	4.37	16	2.07	− 2.30	9.85	1884	2.07	1894
Wellsboro	6.60	15	1.89	− 4.71	17.47	1881	1.42	1893
South Carolina.								
Statesburg	3.92	13	1.33	− 2.59	7.27	1893	1.33	1894
South Dakota.								
Fort Sully	3.31	23	4.50	+ 1.19	6.41	1890	1.50	1871
Texas.								
Austin	3.12	18	1.00	− 2.12	8.32	1872	0.00	1881
Silver Falls	2.29	7	0.28	− 2.01	3.84	1890	0.28	1894
Utah.								
Terrace	0.22	21	.....	.....	1.23	1886	0.00	†
Vermont.								
Strafford	3.54	21	6.15	+ 2.61	7.86	1892	1.60	1884, '85
Virginia.								
Dale Enterprise	5.46	14	1.40	− 4.06	11.00	1884	1.40	1894
Washington.								
Fort Townsend	1.45	19	3.26	+ 1.81	4.10	1875	0.24	1886
West Virginia.								
Parkersburg	3.66	9	6.31	+ 2.65	6.31	1894	1.30	1885
Wisconsin.								
Madison	4.59	21	3.94	− 0.65	9.31	1880	1.08	1886
Wyoming.								
Fort Washakie	1.03	10	0.41	− 0.62	2.98	1889	T.	1881

•Generally. †Frequently.

ACCUMULATED PRECIPITATION.

The total accumulated departures from normal precipitation from the beginning of the year to the end of June are given in the second column of the following table; the third column gives the ratio of the current accumulated precipitation to its normal value:

Districts.	Accumulated departures.	Accumulated precipitation.	Districts.	Accumulated departures.	Accumulated precipitation.
	Inch.	*Per ct.*		*Inch.*	*Per ct.*
New England	−5.70	75	Upper Lake	+ 2.10	113
Middle Atlantic	−3.50	84	North Dakota (Ex. NW.)	+ 2.70	129
South Atlantic	−7.20	72	Northern slope	+ 0.20	102
Key West	−3.70	73	Middle slope	+ 2.10	111
East Gulf	−4.80	84	Middle plateau	+ 0.40	105
West Gulf	−3.10	87	Northern plateau	+ 3.20	128
Ohio Valley and Tennessee	−4.00	84	North Pacific	+11.00	135
Lower Lake	−0.80	96			
Upper Mississippi	−4.60	74			
Missouri Valley	−2.84	83			
Southern slope (Abilene)	−0.40	98			
Southern plateau	−0.90	93			
Middle Pacific	−2.10	89			
South Pacific	−4.60	46			

YEARS OF LEAST PRECIPITATION FOR JUNE.

The precipitation for the current month was the least on record for the month of June at the regular Weather Bureau stations shown in the following table:

Station.	Current precipitation.		Previous minimum.	
	Amount.	Departure.	Amount.	Year.
St. Paul, Minn	1.51	−3.0	1.61	1889
Springfield, Ill	1.56	−3.8	1.99	1893
St. Louis, Mo	1.12	−3.9	3.00	1874
Cairo, Ill	1.04	−3.5	1.45	1890
Fort Smith, Ark	1.20	−3.2	2.10	1882
Little Rock, Ark	0.26	−4.3	1.96	1882
Pensacola, Fla	0.87	−5.3	2.21	1890
Mobile, Ala	1.85	−4.2	2.35	1879
Knoxville, Tenn	1.43	−2.9	1.99	1879
Raleigh, N. C	1.75	−3.7	2.37	1890
Washington, D. C	1.24	−3.0	1.53	1875
Toledo, Ohio	1.76	−1.8	2.00	1893
Columbus, Ohio	1.12	−2.4	1.62	1888
Pittsburg, Pa	0.61	−3.0	1.47	1876
New York, N. Y	0.86	−2.6	1.18	1891
New Haven, Conn	0.49	−2.8	1.21	1880
New London, Conn	0.53	−2.8	0.58	1873
Block Island, R. I	0.51	−2.6	0.62	1888
Vineyard Haven, Mass	1.47	−0.9	1.69	1888
Nantucket, Mass	0.81	−1.9	1.51	1888
Northfield, Vt	1.71	−2.3	2.04	1891

YEARS OF GREATEST PRECIPITATION FOR JUNE.

The precipitation for the current month was the greatest on record for the month of June at the regular Weather Bureau stations shown in the following table:

Station.	Current precipitation.		Previous maximum.	
	Amount.	Departure.	Amount.	Year.
Moorhead, Minn	7.70	+ 3.6	7.32	1884
Columbia, Mo	12.49	+ 8.6	6.94	1891
Kansas City, Mo	8.16	+ 3.0	6.19	1891
Galveston, Tex	9.89	+ 4.9	9.77	1888

EXCESSIVE PRECIPITATION.

The following tables for June, 1894, show, by States, the number of stations reporting total precipitation to equal or exceed 10.00 inches during this month, 2.50 in 24 hours, and 1.00 in 1 hour:

Monthly precipitation to equal or exceed 10.00.

State.	Number of stations.	State.	Number of stations.
Kansas	5	Louisiana	2
Florida	3		

Daily precipitation to equal or exceed 2.50 *in* 24 *hours.*

State.	Number of stations.	Dates.	State.	Number of stations.	Dates.
Kansas	19	8, 8–9, 9, 9–10, 10–11, 18, 20–21, 21, 23, 24, 24–25, 25.	Mississippi	5	11, 19, 20, 21, 23.
			Nebraska	4	14, 20–21, 23.
			North Dakota	4	27, 27–28, 28.
Missouri	10	8–9, 21, 24–25, 25, 25–26.	Illinois	2	17, 25–26.
			Iowa	2	22, 23–24.
Florida	8	1, 6, 6–7, 21–22, 25, 27, 28, 30.	Kentucky	2	26, 26–27.
			Michigan	2	12, 19.
Wisconsin	7	16–17, 17, 23.	Ohio	2	28.
Georgia	6	24, 24–25, 25–26, 26, 28.	West Virginia	2	21–22.
			Alabama	1	25.
Minnesota	6	11, 14, 23, 25, 26–27, 27–28.	Nevada	1	5–6.
			New York	1	24.
Louisiana	5	9–10, 11, 17, 20–21.	North Carolina	1	29–30.

Hourly precipitation to equal or exceed 1.00.

Missouri	10	9, 21, 24, 25, 26, 30.	Colorado	3	7, 16, 24.
Kansas	8	8, 15, 16, 18, 20, 21, 23, 25.	Massachusetts	3	30.
			North Carolina	3	24, 28, 30.
Minnesota	8	15, 23, 25, 26, 27, 29.	West Virginia	3	17, 21–22, 22, 26.
Georgia	6	17, 21, 26, 30.	Illinois	2	23, 25.
New York	6	16, 17, 24, 25, 29, 30.	Indiana	2	21, 24.
Ohio	6	16, 19, 28.	Kentucky	2	24, 26.
Alabama	5	14, 16, 18, 25.	Nebraska	2	21, 23.
Florida	5	1, 3, 10, 20, 25.	Wisconsin	2	23, 26.
Louisiana	5	6, 11, 15, 17, 19, 23.	Arkansas	1	20.
Michigan	5	12, 15, 17, 24, 28.	New Hampshire	1	30.
Mississippi	4	11, 19, 20.	New Jersey	1	17, 30.
Virginia	4	19, 20, 29.	North Dakota	1	19.

Excessive precipitation, by stations, for June, 1894.

State and station.	Monthly rainfall 10 inches, or more.	Rainfall 2.50 inches, or more, in 24 hours.		Rainfall 1 inch, or more, in one hour.		
		Amt.	Day.	Amt.	Time.	Day.
Alabama.	*Inches.*	*Inches.*		*Inches*	*h. m.*	
Eufaula c	.....	.....	.....	1.80	0 47	25
Marion	.....	.....	.....	1.00	0 50	14
Newton	.....	2.57	25	.....	.....	.....
Pushmataha	.....	.....	.....	1.23	1 00	18
Scottsboro	.....	.....	.....	1.15	1 00	16
Wilsonville	.....	.....	.....	1.10	0 40	25
Arkansas.						
Bison	.....	.....	.....	1.35	1 00	20
Colorado.						
Colorado Springs	.....	.....	.....	1.10	1 05	7
Kit Carson	.....	.....	.....	1.00	0 50	16
Vernon	.....	.....	.....	1.25	1 00	24
Florida.						
Avon Park	.....	3.20	1	3.20	2 30	1

Excessive precipitation—Continued.

State and station.	Monthly rainfall 10 inches, or more.	Rainfall 2.50 inches, or more, in 24 hours.		Rainfall of 1 inch, or more, in one hour.		
		Amt.	Day.	Amt.	Time.	Day.
Florida—Continued.	*Inches.*	*Inches.*		*Inches*	*h. m.*	
Fort Meade	14.32	3.71	25	.....	.....	.....
Do	.....	3.34	30	.....	.....	.....
Homeland	14.39	3.32	25	.....	.....	.....
Jacksonville	.....	.....	.....	1.15	0 54	20
Key West	.....	.....	.....	1.08	1 00	10
Lake City	.....	2.58	26	.....	.....	.....
Myers	15.55	2.72	27	.....	.....	.....
New Smyrna	.....	2.85	21-22	.....	.....	.....
Orlando	.....	.....	.....	1.56	0 30	3
Plant City	.....	3.85	6	.....	.....	.....
St. Francis Barracks	.....	4.05	6-7	.....	.....	.....
Tarpon Springs	.....	.....	.....	2.39	1 00	25
Georgia.						
Alapaha	.....	.....	.....	1.22	0 30	26
Augusta	.....	2.52	28	1.00	1 00	17
Do	.....	.....	.....	1.65	0 57	30
Canton	.....	.....	.....	2.03	1 20	21
Hepsibah	.....	.....	.....	1.30	1 20	21
Leverett	.....	.....	.....	1.50	0 40	21
Lumpkin	.....	3.72	25-26	2.67	1 30	26
Morgan	.....	3.55	26	.....	.....	.....
Reynolds	.....	2.98	24-25	.....	.....	.....
Rome	.....	2.49	24	.....	.....	.....
Waynesboro	.....	3.05	28	.....	.....	.....
Illinois.						
Clear Creek	.....	3.00	17	.....	.....	.....
Peoria *b*	.....	.....	.....	1.10	1 00	23
Rushville	.....	3.14	25-26	2.47	2 30	25
Indiana.						
Cambridge City	.....	.....	.....	1.37	1 00	24
Rushville	.....	.....	.....	2.24	0 50	21
Iowa.						
Ames *c*	.....	2.50	23	.....	.....	.....
Sac City	.....	3.75	23-24	.....	.....	.....
Kansas.						
Beloit	.....	3.50	24	.....	.....	.....
Burlington	.....	2.75	8-9	.....	.....	.....
Collyer	.....	4.00	8	.....	.....	.....
Concordia	12.49	3.01	20-21	2.00	1 00	15
Do	.....	3.14	24-25	2.00	2 00	20
Do	.....	.....	.....	2.50	2 00	25
Dodge City	.....	.....	.....	1.38	1 00	21
Downs	10.03	3.51	23	3.51	3 00	23
Emporia	.....	4.00	9-10	.....	.....	.....
Halstead	11.46	5.35	9	.....	.....	.....
Do	.....	4.41	21	.....	.....	.....
Hutchinson	.....	3.14	9	.....	.....	.....
Do	.....	3.23	21	.....	.....	.....
Lebo	.....	2.84	9-10	.....	.....	.....
Do	.....	2.68	18	.....	.....	.....
Macksville	.....	3.65	21	.....	.....	.....
Marion	.....	2.91	9-10	.....	.....	.....
Mount Hope	14.98	8.40	9-10	.....	.....	.....
Do	.....	3.20	21	.....	.....	.....
Olathe	.....	2.53	10-11	.....	.....	.....
Pleasant Dale	.....	4.80	20-21	.....	.....	.....
Quinter	.....	3.00	8	.....	.....	.....
Rome	.....	.....	.....	2.10	1 15	18
Sedan	.....	.....	.....	1.86	0 35	18
Wa Keeney	.....	.....	.....	1.50	1 00	8
Wakefield	.....	.....	.....	1.20	0 24	16
Wichita	.....	3.13	8-9	.....	.....	.....
Do	.....	4.07	21	2.00	2 00	21
Winfield	.....	4.25	10-11	.....	.....	.....
Winona	.....	2.50	24	.....	.....	.....
Yates Center	11.00	7.10	25	.....	.....	.....
Kentucky.						
Hendricks	.....	2.80	26	.....	.....	.....
Lexington	.....	.....	.....	1.10	1 00	26
Middlesboro	.....	3.00	26-27	.....	.....	.....
Mount Sterling	.....	.....	.....	1.65	0 30	24
Louisiana.						
Abbeville	.....	3.05	17	.....	.....	.....
Amite	.....	5.63	20-21	.....	.....	.....
Franklin	.....	.....	.....	1.29	1 00	6
Do	.....	.....	.....	1.97	0 40	19
Houma	.....	4.00	9-10	.....	.....	.....
Jeanerette	.....	.....	.....	2.00	1 00	15
Lake Charles	10.08	.....	.....	.....	.....	.....
Maurepas	.....	.....	.....	1.00	0 20	11
Roseland	.....	3.28	20-21	1.23	1 00	6
Schriever	.....	2.72	11	.....	.....	.....
Thibodeaux	10.06	.....	.....	1.74	0 30	17
Do	.....	.....	.....	2.24	1 00	23
Massachusetts.						
Ludlow Center	.....	.....	.....	1.45	1 00	30
Mount Nonotuck	.....	.....	.....	1.50	1 00	30
Turners Falls	.....	.....	.....	1.42	0 35	30
Michigan.						
Bear Lake	.....	3.05	19	.....	.....	.....
Grand Rapids	.....	.....	.....	1.03	0 30	17
Grape	.....	.....	.....	1.35	1 00	28
Lathrop	.....	3.00	12	3.00	1 30	12
Ovid	.....	.....	.....	1.76	0 55	24
Pontiac	.....	.....	.....	1.65	0 45	15
Minnesota.						
Clearwater	.....	2.64	11	.....	.....	.....
Collegeville	.....	.....	.....	1.08	0 45	27
Cromwell	.....	2.70	14	.....	.....	.....
Dawson	.....	2.64	25	2.64	2 00	25
Grand Meadow	.....	3.10	23	3.10	2 00	23

Excessive precipitation—Continued.

State and station.	Monthly rainfall 10 inches, or more.	Rainfall 2.50 inches, or more, in 24 hours.		Rainfall of 1 inch, or more, in one hour.		
		Amt.	Day.	Amt.	Time.	Day.
Minnesota—Continued.	*Inches.*	*Inches.*		*Inches*	*h. m.*	
Lake Winnibigoshish	.....	.....	.....	1.43	1 00	26
Montevideo	.....	.....	.....	1.00	0 30	15
Moorhead	.....	4.08	27-28	2.02	1 00	27
Morris	.....	3.50	26-27	.....	.....	.....
New Ulm	.....	.....	.....	1.00	1 00	29
St. Cloud	.....	.....	.....	1.51	1 00	15
Mississippi.						
Brookhaven	.....	3.10	20	3.10	2 50	20
Itta Bena	.....	.....	.....	1.40	1 00	20
Leakesville	.....	3.41	23	.....	.....	.....
Logtown	.....	2.65	11	2.00	0 50	11
Meridian	.....	.....	.....	1.20	1 00	19
Port Gibson	.....	2.67	21	.....	.....	.....
Woodville	.....	2.55	19	.....	.....	.....
Missouri.						
Arthur	.....	.....	.....	1.00	1 00	21
Bethany	.....	.....	.....	1.40	1 00	21
Downing	.....	.....	.....	2.08	1 00	21
East Lynne	.....	2.58	25	.....	.....	.....
Eight Mile	.....	3.04	24-25	.....	.....	.....
Emma	.....	2.50	25	1.50	1 00	25
Fairport	.....	.....	.....	1.00	1 00	24
Fox Creek	.....	.....	.....	1.26	1 10	30
Harrisonville	.....	.....	.....	1.35	0 30	26
Kansas City	.....	2.91	24-25	1.07	1 00	9
Kidder	.....	.....	.....	2.03	0 50	9
Marshall	.....	2.88	25	.....	.....	.....
Mexico	.....	2.62	25	.....	.....	.....
Oakfield	.....	.....	.....	1.54	0 45	30
Princeton	.....	2.63	8-9	.....	.....	.....
Sedalia	.....	3.27	24-25	.....	.....	.....
Shelbina	.....	2.50	21	.....	.....	.....
Stellada	.....	2.83	25-26	.....	.....	.....
Nebraska.						
Crete	.....	2.66	23	.....	.....	.....
David City	.....	2.50	20-21	.....	.....	.....
Franklin	.....	.....	.....	2.33	2 00	23
Haigler	.....	.....	.....	1.33	1 00	21
Madrid	.....	5.50	14	.....	.....	.....
Minden	.....	3.29	23	.....	.....	.....
Nevada.						
Virginia City	.....	2.80	5-6	.....	.....	.....
New Hampshire.						
Alstead	.....	.....	.....	1.00	0 43	30
New Jersey.						
Plainfield	.....	.....	.....	2.43	1 65	17
Do	.....	.....	.....	1.21	1 00	30
New York.						
Albany	.....	.....	.....	2.12	1 17	16
Brentwood	.....	.....	.....	1.00	0 30	30
Glens Falls	.....	.....	.....	1.33	0 30	17
Gloversville	.....	.....	.....	2.37	1 05	29
Potsdam	.....	.....	.....	1.83	1 00	24
Saranac Lake	.....	2.55	24	.....	.....	.....
Watertown	.....	.....	.....	1.29	1 00	25
North Carolina.						
Falkland	.....	.....	.....	1.00	0 30	28
Forest Hill	.....	.....	.....	1.50	1 15	30
Greensboro	.....	3.00	29-30	.....	.....	.....
Horse Cove	.....	.....	.....	1.10	1 00	24
North Dakota.						
Berlin	.....	3.58	27-28	.....	.....	.....
Devils Lake	.....	3.63	27-28	.....	.....	.....
Fargo	.....	2.60	28	.....	.....	.....
Jamestown	.....	3.68	27	.....	.....	.....
Napoleon	.....	.....	.....	1.00	1 00	19
Ohio.						
Defiance	.....	3.19	28	.....	.....	.....
Garrettsville	.....	.....	.....	1.52	0 55	16
Montpelier	.....	.....	.....	1.00	0 53	28
Napoleon	.....	4.33	28	.....	.....	.....
New Holland	.....	.....	.....	2.35	1 20	28
North Lewisburg	.....	.....	.....	1.10	0 54	28
Tiffin	.....	.....	.....	1.19	1 00	16
Zanesville	.....	.....	.....	1.08	0 55	19
Oklahoma.						
Arapaho	.....	3.57	22	.....	.....	.....
Oklahoma	.....	2.68	15-16	.....	.....	.....
Pennsylvania.						
Emporium	.....	.....	.....	1.14	1 05	12
Hollidaysburg	.....	.....	.....	1.62	0 50	22
Phœnixville	.....	3.17	24	.....	.....	.....
Somerset	.....	.....	.....	1.15	1 00	16
South Carolina.						
Allendale	.....	.....	.....	1.80	1 00	28
Batesburg	.....	3.10	25	3.10	1 20	25
Blackville	.....	.....	.....	2.20	1 45	28
Cheraw *b*	.....	2.70	27	.....	.....	.....
Flint Hill	.....	.....	.....	1.40	1 00	28
Greenville	.....	.....	.....	1.30	1 00	27
Hollands Store	.....	.....	.....	1.30	0 40	25
McCormick	.....	.....	.....	1.75	1 00	21
St. Matthews	.....	.....	.....	1.25	0 10	20
Santuck	.....	.....	.....	2.12	1 10	21
Simpsonville	.....	.....	.....	1.27	1 10	29
Watts	.....	3.25	28-29	1.50	1 20	29
South Dakota.						
Britton	.....	2.84	14	2.84	2 30	14
Do	.....	2.65	27	.....	.....	.....
Forest City	.....	.....	.....	1.30	0 45	20
Highmore	.....	3.69	27	3.25	3 00	27

Excessive precipitation—Continued.

State and station.	Monthly rainfall 10 inches, or more.	Rainfall 2.50 inches, or more, in 24 hours.		Rainfall of 1 inch or more, in one hour.		
		Amt.	Day.	Amt.	Time.	Day.
South Dakota—Continued.	*Inches.*	*Inches.*		*Inches*	*h. m.*	
Ordway	.....	5.33	27	.....	.....	.....
Webster City	.....	2.74	27-28	.....	.....	.....
Tennessee.						
Clarksville	.....	.....	.....	1.25	0 30	18
Hohenwald	.....	.....	.....	1.12	1 00	29
Memphis	.....	.....	.....	1.26	0 56	15
Rogersville	.....	3.39	26-27	.....	.....	.....
Texas.						
Amarillo	.....	.....	.....	1.25	0 22	16
Belton	.....	2.64	14-15	2.50	0 40	14
Columbia	.....	7.50	13	.....	.....	.....
Forestburg	.....	2.75	14-15	1.85	1 00	15
Galveston	.....	4.75	12	1.89	1 00	12
Hallettsville	.....	.....	.....	1.86	1 30	13
Do.	.....	.....	.....	1.04	1 00	16
Haskell	.....	3.09	12	.....	.....	.....
Llano	.....	3.00	13	3.00	2 00	13
Orange	11.07	2.68	12-13	.....	.....	.....
Do.	.....	3.35	15	.....	.....	.....
Roby	.....	5.70	1	.....	.....	.....
Victoria	.....	.....	.....	1.96	1 30	22
Virginia.						
Irwin	.....	.....	.....	1.75	1 15	19
Norfolk	.....	.....	.....	1.50	1 00	20
Spottsville	.....	.....	.....	1.25	1 00	29
Warrenton	.....	.....	.....	1.60	1 30	20
West Virginia.						
Burlington	.....	.....	.....	1.20	1 00	17
Fairmont	.....	.....	.....	1.42	0 55	22
Parkersburg (W. B.)	.....	2.92	21-22	1.52	1 11	21-22
Do.	.....	.....	.....	1.40	0 52	22
Do.	.....	.....	.....	1.52	0 30	26
Parkersburg (V. O.)	.....	2.85	21-22	.....	.....	.....
Wisconsin.						
Beaver Dam	.....	2.54	16-17	.....	.....	.....
Belleville	.....	3.25	16-17	.....	.....	.....
Chilton	.....	.....	.....	1.52	1.00	26
Columbus	.....	3.25	16-17	.....	.....	.....
Green Bay	.....	3.50	16-17	.....	.....	.....
Harvey	.....	5.67	16-17	.....	.....	.....
Hillsboro	.....	2.88	17	.....	.....	.....
Spooner	.....	3.00	23	3.00	1.00	23

FREQUENCY OF EXCESSIVE PRECIPITATION SINCE 1871.

The following tables show the number of years for which monthly precipitation to equal or exceed 10.00 inches, daily precipitation to equal or exceed 2.50 inches, and hourly precipitation to equal or exceed 1.00 inch has been reported for June in the several states and territories during the last 24 years:

Frequency of excessive monthly precipitation.

State.	No. years noted.	State.	No. years noted.
Florida	18	New York	5
Iowa	16	Wisconsin	5
Texas	14	Michigan	4
Louisiana	14	Pennsylvania	4
Georgia	13	Mississippi	3
Missouri	11	The Dakotas	3
Kansas	10	Indian Territory	2
Illinois	9	New Jersey	2
Nebraska	9	Virginia	2
North Carolina	9	Maryland	2
Alabama	8	Vermont	2
Indiana	8	Colorado	1
South Carolina	8	Connecticut	1
Minnesota	7	Rhode Island	1
New Hampshire	6	Washington	1
Ohio	5	Arkansas	1
Tennessee	5		

Frequency of excessive daily precipitation.

State.	No. years noted.	State.	No. years noted.
Texas	21	Tennessee	14
Florida	20	South Carolina	14
Illinois	20	Ohio	13
Kansas	19	Indiana	12
Iowa	18	Maryland	12
Missouri	18	Alabama	12
Georgia	16	Louisiana	12
Nebraska	16	Mississippi	12
The Dakotas	16	Massachusetts	11
Minnesota	15	Virginia	11
New York	15	Arkansas	10
Michigan	14	Connecticut	8
North Carolina	14	New Jersey	7
Pennsylvania	14	Indian Territory	7

Frequency of excessive daily precipitation—Continued.

State.	No. years noted.	State.	No. years noted.
Kentucky	7	Delaware	2
Wisconsin	6	Rhode Island	2
Maine	5	Idaho	1
West Virginia	5	New Mexico	1
Vermont	4	Wyoming	1
Montana	3	Washington	1
New Hampshire	3	Nevada	1
Colorado	2		

Frequency of excessive hourly precipitation.

Kansas	19	Mississippi	8
Texas	18	New York	8
Georgia	16	Wisconsin	8
Iowa	15	Alabama	6
Florida	15	New Jersey	6
Illinois	15	Kentucky	4
Michigan	15	West Virginia	4
Nebraska	14	Maryland	3
Tennessee	13	Connecticut	3
Missouri	12	Colorado	3
North Carolina	12	Massachusetts	3
Pennsylvania	12	New Hampshire	3
The Dakotas	12	Maine	2
Ohio	11	New Mexico	2
Virginia	11	Indian Territory	2
Louisiana	10	Wyoming	2
Minnesota	10	Arizona	1
South Carolina	10	Idaho	1
Indiana	9	Montana	1
Arkansas	8	Vermont	1

MAXIMUM RAINFALL FROM SELF-REGISTERING GAUGES.

The following table gives the heaviest rainfall during June, 1894, for periods of 5, 10, and 60 minutes, as recorded on self-registering rain gauges at regular stations of the Weather Bureau. This record refers strictly to rainfall. About 37 stations are furnished with self-registering-float-rain gauges and 6 with the self-registering-weighing-rain-and-snow gauge. The float gauge does not record snowfall, and both forms are liable to be interrupted by snow and ice:

Maximum rainfall in one hour or less.

Station.	Maximum rainfall in—					
	5 min.	Date.	10 min.	Date.	1 hour.	Date.
	Inch.		*Inch.*		*Inch.*	
Atlanta, Ga	0.30	17	0.35	17	0.49	17
Baltimore, Md	0.30	12	0.40	12	0.60	24
Bismarck, N. Dak	0.11	27	0.13	27	0.25	27
Boston, Mass	0.16	21	0.22	21	0.30	21
Buffalo, N. Y	0.24	27	0.35	27	0.82	27
Cincinnati, Ohio	0.20	17, 18	0.33	17	0.60	17
Chicago, Ill	0.26	23	0.32	25	0.43	25
Cleveland, Ohio	0.14	24	0.23	24	0.42	24
Denver, Colo	0.05	20	0.07	20	0.22	20
Detroit, Mich	0.30	24	0.50	24	0.80	24
Dodge City, Kans	0.27	21	0.40	21	1.38	21
Duluth, Minn	0.16	28	0.17	27, 28	0.27	27
Eastport, Me	0.11	23	0.20	23	0.60	23
Galveston, Tex	0.35	12	0.70	12	1.89	12
Indianapolis, Ind	0.39	24	0.50	24	0.78	24
Jacksonville, Fla	0.38	4	0.52	4	1.15	20
Jupiter, Fla	0.35	6	0.50	6	0.65	6
Kansas City, Mo	0.32	24	0.46	24	1.07	9
Key West, Fla	0.25	10	0.38	10	1.08	10
Marquette, Mich	0.18	24	0.25	24	0.46	24
Memphis, Tenn. *	0.55	15	0.80	15	1.26	15
Milwaukee, Wis	0.25	23, 25	0.40	23	0.85	23
Nantucket, Mass	0.02	5	0.04	5	0.14	5
Nashville, Tenn	0.26	13	0.49	13	0.79	15
New Orleans, La	0.30	17	0.50	17	0.74	19
New York, N. Y	0.05	4	0.08	4	0.15	4
Norfolk, Va	0.45	20	0.80	20	1.50	20
Omaha, Nebr	0.30	21	0.52	21	0.68	29
Philadelphia, Pa	0.07	30	0.10	30	0.15	6
Pittsburg, Pa	0.02	1	0.04	1	0.15	1
Portland, Me	0.17	11	0.30	11	0.65	11
Portland, Oreg	0.10	2	0.16	2	0.26	2
Rochester, N. Y	0.20	17	0.30	17	0.75	17
St. Louis, Mo. *	0.08	25	0.14	25	0.27	25
St. Paul, Minn. *	0.08	20	0.12	20	0.53	27
Salt Lake City, Utah	0.04	7	0.08	7	0.27	7
San Diego, Cal. †	.....	.....	.....	.....	.....	.....
San Francisco, Cal	0.03	2	0.05	2	0.12	3
Savannah, Ga	0.30	23	0.50	23	0.92	23
Seattle, Wash	0.05	2	0.08	2	0.22	3
Vicksburg, Miss	0.35	17	0.60	17	0.75	17
Washington, D. C	0.09	6	0.15	6	0.20	6
Wilmington, N. C	0.20	25, 26	0.35	25	0.51	25

*Record incomplete. † Less than 0.05 in 1 hour.

EXCEPTIONAL PRECIPITATION.

The following tables give exceptionally heavy monthly, daily, and hourly precipitation reported for June, by any station, regular or voluntary, and in any year since 1871:

Exceptional monthly precipitation.

Station and state.	Amt.	Year.	Station and state.	Amt.	Year.
	Inches.			*Inches.*	
Alexandria, La	36.91	1886	Hypoluxo, Fla	23.25	1892
Cheneyville, La	26.59	1886	Sylvan Park, Mo	21.86	1872
California, Mo	23.90	1891	Archer, Fla	20.19	1892

Exceptional daily precipitation.

Station and state.	Amount.	Date.	Station and state.	Amount.	Date.
	Inches.			*Inches.*	
Alexandria, La	22.27	16, 1886	Helena, Ark	5.60	9, 1877
Point Pleasant, La	16.55	12-14, 1878	Plattsmouth, Nebr	5.60	13-14, 1874
Pensacola, Fla	10.70	29, 1887	Greensboro, N. C	5.60	17, 1876
Sour Lake, Tex	9.70	18, 1888	Cameron, La	5.57	22, 1892
Memphis, Tenn	9.67	8-9, 1877	Crowley, La	5.56	6, 1889
Orange, Tex	9.55	22-24, 1892	Plattsmouth, Nebr	5.52	8-9, 1874
Memphis, Tenn	8.95	7-8, 1877	Hardeeville, S. C	5.50	9, 1885
Clear Lake, Nebr	8.75	1, 1875	Madrid, Nebr	5.50	14, 1894
Mobile, Ala	8.50	26-27, 1888	Evergreen, Ala	5.50	27, 1888
Mount Hope, Kans	8.40	9-10, 1894	Rockford, Iowa	5.50	23, 1875
Lebo, Kans	8.23	26, 1893	New Orleans, La	5.47	29-30, 1887
Readington, N. J	8.10	25-26, 1884	Travare, S. Dak	5.40	5-6, 1892
Cunningham, Kans	8.00	19-20, 1890	Caldwell, N. Y	5.40	25-26, 1884
Syracuse, N. Y	8.00	8, 1876	Aberdeen, Miss	5.40	21, 1886
Nashua, Iowa	7.50	14, 1880	Corry, Pa	5.36	4, 1892
Columbia, Tex	7.50	13, 1894	Jeanerette, La	5.35	16, 1892
Wellsboro, Pa	7.45	*1889	Boston, Mass	5.35	9-10, 1875
Little Rock, Ark	7.40	28, 1879	Halstead, Kans	5.35	9, 1894
Colebrook, Conn	7.40	7-8, 1874	Ordway, S. Dak	5.33	27, 1894
Salisbury, N. C	7.39	10, 1883	Sycamore, Ill	5.33	22-23, 1892
Yates Center, Kans	7.10	25, 1894	Fort Adams, R. I	5.30	9-10, 1875
Purdy, Tenn	7.10	14-15, 1876	Fort Maginnis, Mont	5.28	20-21, 1888
Salisbury, N. C	7.10	25, 1885	Galveston, Tex	5.27	23-24, 1880
Wilmington, N. C	7.03	30, 1876	Merritts Island, Fla	5.27	23, 1889
Darien, Ga	7.00	13, 1893	St. Marks, Fla	5.24	9, 1879
Columbia, Tex	7.00	17, 1888	Wilmington, N. C	5.22	2, 1882
Marmaton, Kans	6.60	15-16, 1889	Fort Clark, Tex	5.20	18-19, 1877
New Ulm, Tex	6.50	17-18, 1888	Franklin, La	5.20	27, 1892
Fort Scott, Kans	6.45	15-16, 1889	Marquette, Mich	5.20	20-21, 1878
Galveston, Tex	6.40	17, 1888	Mascoutah, Ill	5.20	18, 1892
Archer, Fla	6.34	27, 1892	Yankton, S. Dak	5.20	30, 1875
Emilie, La	6.32	22-23, 1890	Carthagena, Ohio	5.18	20, 1876
Alexandria, La	6.31	15, 1886	Raleigh, N. C	5.18	28-29, 1889
St. Marys, Ga	6.20	12-13, 1877	Des Moines, Iowa	5.14	19-20, 1881
Charleston, S. C	6.16	11-12, 1876	Jacksonville, Fla	5.12	10-11, 1885
Savannah, Ga	6.10	26-27, 1887	Savannah, Ga	5.12	14-15, 1876
Cleburne, Tex	6.04	2, 1884	Melissa, Tex	5.10	28, 1878
Columbia, Tex	6.00	7-8, 1890	Helena, Ark	5.10	8, 1877
Logan, Iowa	6.00	29-30, 1878	Fort Randall, S. Dak	5.10	30, 1875
Larned, Kans	6.00	19, 1878	Cadis, Wis	5.07	13-14, 1890
Norfolk, Va	5.97	16-17, 1893	Bellefontaine, Ohio	5.06	5-6, 1877
Block Island, R. I	5.97	9-10, 1881	Fayette, Iowa	5.04	3-4, 1890
New London, Conn	5.97	25-26, 1884	Minden, La	5.02	23, 1892
Cheneyville, La	5.90	10, 1889	Omaha, Nebr	5.02	17, 1875
Cameron, La	5.89	17-18, 1892	Monroe, La	5.01	5-6, 1890
Edgard, La	5.85	23, 1890	Beardstown, Ill	5.00	21, 1885
Mattoon, Ill	5.85	27, 1888	Grand Meadow, Minn	5.00	15, 1892
Charleston, S. C	5.79	7-8, 1893	Marengo, Ind	5.00	18, 1890
Kingman, Kans	5.75	19, 1890	Tannersville, N. Y	5.00	26-27, 1889
Somerset, Mass	5.74	9-10, 1875	Sandwich, Ill	5.00	8, 1874
Cape Charles, Va	5.70	16-17, 1893	Danville, Ky	5.00	17, 1878
Roby, Tex	5.70	1, 1894	Burlington, Kans	5.00	13, 1876
Harvey, Wis	5.67	16-17, 1894	Ft. Independence, Mass	5.00	10, 1875
Hazelhurst, Miss	5.67	5, 1893	Cape Henry, Va	5.00	16-17, 1893
Amite, La	5.63	20-21, 1894			

*May 31-June 1.

Exceptional precipitation for one hour or less.

Station and state.	Amount.	Time.	Date.
	Inches.	h. m.	
New York, N. Y	0.60	0 05	6, 1893
Memphis, Tenn	0.55	0 05	15, 1894
Cleveland, Ohio	0.47	0 05	3, 1891
Indianapolis, Ind	0.45	0 05	20, 1893
Norfolk, Va	0.45	0 05	20, 1894
Tampa, Fla	0.40	0 05	8, 1893
Bismarck, N. Dak	0.40	0 05	19, 1890
Savannah, Ga	0.40	0 05	9, 1889
Do	0.40	0 05	27, 1889
Jupiter, Fla	0.40	0 05	19, 1891
Indianapolis, Ind	0.39	0 05	24, 1894
Jacksonville, Fla	0.38	0 05	4, 1894
Do	0.38	0 05	15, 1893
Galveston, Tex	0.38	0 05	19, 1893
Augusta, Ga	0.37	0 05	27, 1888
Jupiter, Fla	0.35	0 05	30, 1893
Galveston, Tex	0.35	0 05	12, 1894
Jupiter, Fla	0.35	0 05	6, 1894

Exceptional precipitation for one hour or less—Continued.

Station and state.	Amount.	Time.	Date.
	Inches.	h. m.	
Vicksburg, Miss	0.35	0 05	17, 1894
Chicago, Ill	0.35	0 05	20, 1893
Galveston, Tex	0.35	0 05	7, 1890
New York, N. Y	0.35	0 05	6, 1890
New Orleans, La	0.35	0 05	22, 1890
Savannah, Ga	0.35	0 05	11, 1890
Galveston, Tex	0.35	0 05	29, 1891
Kansas City, Mo	0.35	0 05	16, 1891
Do	0.32	0 05	24, 1894
Detroit, Mich	0.32	0 05	3, 1893
Cleveland, Ohio	0.30	0 05	10, 1891
Norfolk, Va	0.30	0 05	13, 1890
New Orleans, La	0.30	0 05	17, 1894
Atlanta, Ga	0.30	0 05	17, 1894
Baltimore, Md	0.30	0 05	12, 1894
Detroit, Mich	0.30	0 05	24, 1894
Bismarck, N. Dak	0.30	0 05	14, 1891
Key West, Fla	0.30	0 05	13, 1893
New Orleans, La	0.30	0 05	6, 1893
Omaha, Nebr	0.30	0 05	21, 1894
Savannah, Ga	0.30	0 05	23, 1894
Cincinnati, Ohio	0.30	0 05	22, 1893
Washington, D. C	0.30	0 05	21, 1891
Wilmington, N. C	0.30	0 05	8, 1891
Detroit, Mich	0.30	0 05	16, 1889
Do	0.29	0 05	22, 1891
Savannah, Ga	0.29	0 05	7, 1893
Do	0.29	0 05	22, 1893
Detroit, Mich	0.28	0 05	28, 1890
Dodge City, Kans	0.27	0 05	21, 1894
St. Paul, Minn	0.26	0 05	23, 1890
Chicago, Ill	0.26	0 05	23, 1894
Nashville, Tenn	0.26	0 05	15, 1894
St. Louis, Mo	0.26	0 05	21, 1893
New York, N. Y	0.25	0 05	17, 1889
Jupiter, Fla	0.25	0 05	3, 1890
Kansas City, Mo	0.25	0 05	21, 1893
Milwaukee, Wis	0.25	0 05	4, 1893
Wilmington, N. C	0.25	0 05	7, 1893
Do	0.25	0 05	14, 1893
Marquette, Mich	0.25	0 05	27, 1890
St. Louis, Mo	0.25	0 05	17, 1890
Washington, D. C	0.25	0 05	12, 1890
Milwaukee, Wis	0.25	0 05	23, 1894
Do	0.25	0 05	25, 1894
Cincinnati, Ohio	0.25	0 05	3, 1891
Dodge City, Kans	0.25	0 05	5, 1891
Eastport, Me	0.25	0 05	24, 1891
Key West, Fla	0.25	0 05	10, 1894
Jupiter, Fla	0.25	0 05	13, 1889
Memphis, Tenn	0.25	0 05	16, 1891
Do	0.25	0 05	29, 1891
St. Louis, Mo	0.25	0 05	16, 1891
St. Matthews, S. C	1.25	0 10	20, 1894
New York, N. Y	0.82	0 10	6, 1893
Jupiter, Fla	0.70	0 10	30, 1893
Tampa, Fla	0.70	0 10	8, 1893
Galveston, Tex	0.70	0 10	7, 1890
New Orleans, La	0.70	0 10	22, 1890
Savannah, Ga	0.65	0 10	27, 1889
Bismarck, N. Dak	0.61	0 10	19, 1890
Cleveland, Ohio	0.61	0 10	3, 1891
Norfolk, Va	0.60	0 10	18, 1890
Galveston, Tex	0.58	0 10	19, 1893
Indianapolis, Ind	0.56	0 10	20, 1893
Cleveland, Ohio	0.55	0 10	10, 1890
New York, N. Y	0.55	0 10	6, 1890
Cincinnati, Ohio	0.55	0 10	22, 1893
Detroit, Mich	0.55	0 10	3, 1893
Jacksonville, Fla	0.55	0 10	15, 1893
Savannah, Ga	0.55	0 10	11, 1891
Bismarck, N. Dak	0.55	0 10	14, 1891
Toledo, Ohio	0.52	0 10	13, 1888
Memphis, Tenn	0.60	0 11	30, 1888
Anna, Ill	1.19	0 13	20, 1878
Fort Randall, S. Dak	1.56	0 15	28, 1873
Southington, Conn	1.45	0 15	29, 1879
Steelville, Mo	1.33	0 15	13, 1893
Gratiot, Ohio	1.23	0 16	9, 1892
Kennett Square, Pa	1.22	0 17	22, 1893
Ozark, Ark	1.25	0 17	14, 1893
Clarinda, Iowa	0.95	0 20	20, 1889
Alapaha, Ga	1.75	0 20	26, 1890
Potosi, Wis	1.70	0 20	14, 1890
Webster, S. Dak	1.50	0 20	24, 1884
Humansville, Mo	1.23	0 20	20, 1893
Herrins Prairie, Ill	1.20	0 20	4, 1893
Lynchburg, Va	1.02	0 20	15, 1879
Maurepas, La	1.00	0 20	11, 1894
Sheldon, Minn	1.35	0 22	18, 1890
Amarillo, Tex	1.25	0 22	16, 1894
Wakefield, Kans	1.20	0 24	16, 1894
Sheldon, Minn	2.07	0 25	23, 1890
Clear Creek, Mont	2.00	0 25	13, 1879
Lonoke, Ark	2.35	0 30	30, 1893
Denmark, Iowa	2.02	0 30	25, 1879
Boston, Mass	2.00	0 30	29, 1879
Alpena, Mich	2.00	0 30	24, 1880
Ellendale, N. Dak	2.00	0 30	26, 1893
Statesville, N. C. (near)	2.00	0 30	17, 1876
Galveston, Tex	2.00	0 30	17, 1888
Keswick, Va	2.00	0 30	3, 1881
Diamond, Ga	2.00	0 30	21, 1889
Columbus, Ga	1.90	0 30	28, 1893
Sandusky, Ohio	1.90	0 30	17, 1881

Exceptional precipitation for one hour and less—Continued.

Station and state.	Amount.	Time.	Date.
	Inches.	*h. m.*	
Missoula, Mont	1.84	0 30	13, 1875
Thibodeaux, La	1.74	0 30	17, 1894
Batesville, Miss	1.72	0 30	24, 1892
Louisville, Miss	1.59	0 30	17, 1889
Brooksville, Fla	1.57	0 30	21, 1893
Orlando, Fla	1.56	0 30	3, 1894
Newton, Iowa	1.55	0 30	20, 1881
Parkersburg, W. Va	1.52	0 30	26, 1894
Carrington, N. Dak	1.50	0 30	14, 1892
Canton, Pa	1.50	0 30	27, 1892
Larrabee, Iowa	1.84	0 31	19, 1892
Jacksonville, Fla	1.81	0 31	26, 1875
Charlotte, N. C	2.08	0 34	30, 1889
Sedan, Kans	1.86	0 35	18, 1894
North Lewisburg, Ohio	1.60	0 35	27, 1879
Palestine, Tex	1.96	0 36	3, 1883
East Peoria, Ill	2.65	0 40	13, 1893
Belton, Tex	2.50	0 40	14, 1891
Oxanna, Ala	2.00	0 40	25, 1892
Uniontown, Pa	2.35	0 40	4, 1892
La Crosse, Wis	1.37	0 40	21, 1884
Wytheville, Va	2.70	0 44	25, 1875
Dodge City, Kans	3.24	0 45	19, 1888
Amana, Iowa	2.17	0 45	19, 1878
Charleston, S. C	2.61	0 50	7, 1893
Wellsboro, Pa	2.60	0 50	19, 1882
Cumberland, Md	4.64	1 00	4, 1892
Des Moines, Iowa	3.00	1 00	24, 1879
Merritts Island, Fla	3.00	1 00	23, 1889
Spooner, Wis	3.00	1 00	23, 1894

HAIL.

The following are the dates on which hail fell in the respective States:

Alabama, 17. Arkansas, 20, 26. Colorado, 1 to 9, 14, 15, 16, 20, 21, 22, 24, 25, 27. Connecticut, 4, 12, 13, 15, 30. Delaware, 24. District of Columbia, 13. Florida, 3, 4, 29. Georgia, 29. Idaho, 3, 9, 10, 18, 19, 22. Illinois, 3, 6, 15, 17, 20 to 26, 30. Indiana, 12, 15, 16, 17, 20, 21, 26, 28. Iowa, 9, 15, 16, 20, 22, 23, 25, 26, 27, 30. Kansas, 3, 7 to 10, 15, 18 to 21, 23 to 29. Kentucky, 13, 14, 16, 17, 18, 26. Louisiana, 22, 25. Maine, 11, 17. Maryland, 5, 12, 24, 30. Massachusetts, 1, 2, 4, 7, 11, 17, 23, 30. Michigan, 12, 13, 14, 17, 22, 24, 28, 29. Minnesota, 20, 22, 23, 24, 26 to 29. Mississippi, 4, 9, 14, 16. Missouri, 4, 9, 10, 14, 15, 18, 21, 24, 25, 26, 28, 30. Montana, 1, 3 to 7, 10, 17 to 20, 25, 26.

Nebraska, 8, 9, 14, 16, 18, 20, 23, 25, 27, 29, 30. Nevada, 5, 6, 10, 11, 15. New Hampshire, 1, 7, 18, 19, 23, 30. New Jersey, 4, 13, 16, 19, 30. New Mexico, 1, 2, 4 to 7, 10, 11, 12, 15, 16. New York, 1, 3, 4, 5, 7, 12, 16, 17, 18, 24. North Carolina, 6, 13, 21, 28, 29, 30. North Dakota, 13, 19, 20, 21, 26. Ohio, 4, 12, 13, 16, 18, 21, 23 to 26, 28, 29, 30. Oregon, 2, 3, 9, 10, 14. Pennsylvania, 3, 4, 12, 16, 17, 18, 22, 23. South Carolina, 13, 25, 29, 30. South Dakota, 11, 12, 13, 19, 21, 22, 23, 25 to 28. Tennessee, 5, 12, 15, 16, 29. Texas, 1, 11, 16, 17, 19, 22. Utah, 5 to 8, 13, 20, 23, 26. Vermont, 7, 16, 17. Virginia, 6, 27. Washington, 2, 3, 9, 11, 18. West Virginia, 17, 20, 21, 22, 30. Wisconsin, 9, 15, 21, 22, 23, 25, 27, 28. Wyoming, 14, 15, 19.

Monthly snowfall and amounts on ground on the 15th and at close of month.

State and station.	Total.	15th.	30th.	State and station.	Total.	15th.	30th.
Colorado.	*Inches.*	*Ins.*	*Ins.*	*Nevada*—Cont'd.	*Inches.*	*Ins.*	*Ins.*
Breckenridge	0.5	0.0	0.0	McGill	1.5	0.0	0.0
Climax	13.1	0.0	0.0	Stofiel	3.0	0.0	0.0
Coma (near)	0.2	0.0	0.0	Winnemucca	0.7	0.0	0.0
Stamford	T.	0.0	0.0	*Oregon.*			
Steamboat Springs	1.0	0.0	0.0	Happy Valley	0.2	0.0	0.0
Sunnyside	2.1	0.0	0.0	Joseph	2.5	0.0	0.0
Pikes Peak	4.8	24.0	13.0	*Utah.*			
Idaho.				Castle Gate	0.5	0.0	0.0
Lake	8.0	0.0	0.0	Logan	T.	0.0	0.0
Nevada.				Randolph	T.	0.0	0.0
Belleville	T.	0.0	0.0	Scofield	8.5	0.0	0.0
Candelaria	T.	0.0	0.0	Silver Lake	12.0	0.0	0.0
Carson City	0.3	0.0	0.0	Singletree	T.	0.0	0.0
Ely	0.2	0.0	0.0				

WIND.

PREVAILING WINDS.

The prevailing winds for June, 1894, viz, those that were recorded most frequently at Weather Bureau stations, are shown in Tables I and VIII; they are not given on Chart II, as has hitherto been the custom, but the resultant winds are published instead.

RESULTANT WINDS.

The resultant winds for the current month, as deduced from the hourly records by self-registers at about 67 regular Weather Bureau stations, are given in Table VIII. Other resultants, deduced from the personal observations made at 8 a. m. and 8 p. m., are given in Table IX. These latter resultants are also shown graphically on Chart II, in connection with the isobars based on the same system of simultaneous observation; the small figure attached to each arrow shows the number of hours that this resultant prevailed, on the assumption that each of the morning and evening observations represents one hour's duration of a wind of average velocity; these figures (or the ratio between them and the total number of observations in this month) indicate the extent to which winds from different directions counterbalance each other. The original north, south, east, and west components are given in detail in Table IX.

During June the resultant movement was generally from the southwest in New England and the middle Atlantic States, Ohio Valley and Tennessee, the upper and lower Lake regions, upper Mississippi Valley, and the northern Rocky Mountain slope. The resultant was from the southeast in Florida, the western Gulf States, North Dakota, and the Missouri Valley. The strongest resultants were: Savannah, Amarillo, Corpus Christi, Galveston, Dodge City, and Oklahoma, southeast; Walla Walla, San Francisco, and Block Island, southwest; Fresno, northwest.

HIGH WINDS.

Wind velocities of 50 miles, or more, per hour were reported at regular stations of the Weather Bureau as follows (maximum velocities are averages for 5 minutes; extreme velocities are gusts of shorter duration):

Stations.	Date.	Velocity.	Direction.	Stations.	Date.	Velocity.	Direction.
		Miles.				*Miles.*	
Amarillo, Tex	16	60	w.	Pikes Peak, Colo	11	84	sw.
Canby, Fort Wash	8	68	se.	Do	20	90	w.
Chicago, Ill	26	50	sw.	Portland, Oreg	2	53	s.
Huron, S. Dak	9	60	s.	Tatoosh Island, Wash	2	54	s.
Do	19	69	se.	Do	9	56	sw.
Do	27	52	nw.	Winnemucca, Nev	3	56	s.
Little Rock, Ark	20	50	ne.				

LOCAL STORMS.

Destructive or severe local storms were reported as follows:

2d.—Thunder, hail, and wind storms, in Oregon and Washington. A man and horse were killed by lightning at Troutdale, Oreg.

3d.—Windstorms at Kent, Tex., and Grangeville, Idaho.

4th.—Thunderstorm at New London, Conn. Severe local storm at Callaway, Nebr., about 7.30 p. m.; two clouds, one moving from the northwest and the other from the northeast, met about ½ mile from the town, after which the clouds had

a whirling motion and the course of the storm was south. Windstorms at Cozad, Lexington, and Superior, Nebr.

5th.—Windstorm at Kipp, Mont. Hailstorm at Gallinas Spring, N. Mex.

6th.—Hail and thunder storm at Sante Fe, N. Mex.; began at 11.48 p. m., 6th, and continued until early morning, 7th.

7th.—Colorado Springs, Colo., rain and thunder storm in the afternoon.

8th.—A hailstorm at Lexington, Nebr.

9th.—A thunder and hail storm, with a funnel-shaped cloud, at Floydada, Tex. Thunderstorms in Kansas and Missouri. At Kansas City, Mo., a child killed by lightning. Takoma, Wash., windstorm; several persons injured.

10th.—Wakefield, Kans., stock killed by lightning.

11th.—Thunderstorms at Portland, Me., and Nantucket, Mass.

12th.—Greenfield Hill, Conn., hailstorm. Dunmore, Pa., a man and stock were killed and 2 persons injured by lightning. Baltimore, Md., thunderstorm with heavy rain in the afternoon; the temperature fell from 89° to 63° in about 10 minutes, and 0.30 inch of rain fell in 5 minutes. On Lake Huron, 5 miles out from Oscoda, Mich., man injured by lightning.

13th.—Southport and Wilmington, N. C., thunderstorms.

14th.—Glasgow, Mo., man killed by lightning.

15th.—Memphis and Nashville, Tenn., thunderstorms. Chicago, Ill., man killed by lightning. Ashboro, Ind., hailstorm. Granite Falls, Minn., horse killed by lightning. Des Moines, Iowa, and Concordia, Kans., thunderstorms. Gorin, Mo., hailstorm, Menominee, Mich., 3 men killed by lightning.

16th.—Albany, N. Y., and Harrisburg, Pa., thunderstorms. Conway, Ark., windstorm. Amarillo, Tex., thunder, wind, and hail storm. Springfield, Ill., thunderstorm. Near Athens, Ill., boy killed by lightning. Thornton, Mich., 4 persons injured by lightning.

17th.—Cornwall, Vt., North Hammond, N. Y., and Newbern, Ala., thunderstorms. Mason, Tenn., man killed by lightning. Louisville, Ky., windstorm. Harrison, Nebr., thunderstorm.

18th.—Lancaster, N. H., 2 persons injured by lightning. Malone, N. Y., 3 horses killed by lightning. Blacksburg, S. C., thunderstorm. Ellsworth, Kans., windstorm. Topeka, Kans., thunderstorm. Hutchinson, Kans., horse killed by lightning. Osage, Kans., man killed by lightning. Omaha, Nebr., thunderstorm.

19th.—Hartland, Vt., and Honeymead Brook, N. Y., thunderstorm. Paterson, N. J., wind and rain storm. Sioux City, Iowa, thunderstorm. Tornado passed about 12 miles northeast of Bowdle, S. Dak.; funnel-shaped cloud observed; 3 persons killed and 8 injured.

20th.—Portsmouth, Va., man killed by lightning. Conway, Ark., windstorm. Tuscola, Ill., boy killed by lightning. Brookville, Ind., windstorm. Worthington, Ind., and Clarion, Iowa, thunderstorms. Eagle Grove, Mason City, and Sioux City, Iowa, windstorms. Faribault, Minn., thunder and rain storm; one man killed. Narka, Kans., thunderstorm. Dorchester, Syracuse, and Lincoln, Nebr., windstorms. Omaha, Nebr., thunderstorm; one person drowned by the capsizing of a boat and a boy fatally injured by flying debris.

21st.—Parkersburg, W. Va., most severe thunder and rain storm on record; began 11.32 p. m., ended 12.15 a. m., 22d. Boonville, Mo., and Dodge City, Kans., thunderstorms. Hutchinson, Kans., boy killed by lightning.

22d.—Parkersburg, W. Va., thunderstorm. Charleston, W. Va., one person and a horse killed by lightning. Oxford, La., windstorm. Twelve miles northeast of Bayport, Mich., man killed by lightning. Port Huron, Mich., thunderstorm. Le Claire and Princeton, Iowa, hailstorms. Pine River, Minn., thunder and wind storm.

23d.—Antrim, N. H., and Fitchburg, Mass., thunderstorms. Near Friendship, N. Y., stock killed by lightning. Egypt, Miss., windstorm. About 1½ miles east of Tiffin, Ohio, wind and rain storm moved north; one person killed. Stevens Point, Wis., thunderstorm. Hays City, Kans., and 10 miles south of Huron, S. Dak., hailstorms. Irvington, Nebr., windstorm.

24th.—Squalls and rough sea in New York Harbor. North Hammond, N. Y., and Erie, Pa., thunderstorms. Phœnixville, Pa., wind and rain storm. Ashtabula, Ohio, rain and hail storm. Madison, Ind., windstorm. Detroit, Mich., rain and wind storm. Point Edward, Mich., man injured by lightning. Near Chillicothe, Mo., horses killed by lightning.

25th.—Charlotte, N. C., man killed by lightning. Tampa, Fla., Pekin, Ill., and Detroit, Mich., thunderstorms. Two miles east of Reedsburg, Wis., stock killed by lightning. East Lynne, Hardin, and Mexico, Mo., thunderstorms. Cedar Point, Kans., thunderstorm; funnel-shaped cloud observed. Concordia and Girard, Kans., rainstorms. Montgomery County, Kans., hailstorm. Keighley and Oswego, Kans., thunderstorms.

26th.—Erie, Pa., thunderstorm; 3 persons stunned by lightning. Four miles east of Erie man killed and 2 persons stunned by lightning. Parkersburg, W. Va., Louisville, Ky., and in Ohio, thunderstorms. Madison and Worthington, Ind., windstorms. Yates Center, Kans., thunderstorm. Toronto, Kans., windstorm. Northwestern part of Wyoming, man killed by lightning.

27th.—Bethlehem, N. H., and Watertown, N. Y., thunderstorms. Violent local storms, with characteristics of tornadoes, occurred at the following places in Minnesota and South Dakota: Cedar Mills, Cold Springs, Willmar, Collegeville, Echo, Sleepy Eye, Fergus Falls, Forest City, Holland, Litchfield, Minneapolis, Montrose, Raymond, St. Paul, Selma, and Pipe Stone, Minn.; Aberdeen, Alpena, Bath, Bonilla, Huron, Hitchcock, St. Lawrence, and Sisseton Agency, S. Dak. Ten persons were killed in Minnesota and 6 in South Dakota. Pittsburg, Kans., windstorm; funnel-shaped cloud observed.

28th.—Falkland, N. C., rainstorm. Augusta, Ga., thunderstorm. Springdale, Tenn., rainstorm. Logan, Ohio, windstorm. Montpelier and Toledo, Ohio, thunderstorms. New Holland, Ohio, rainstorm. Chillicothe, Mo., thunderstorm.

29th.—Bailey, N. C., Moseley Hall and Tampa, Fla., thunderstorms.

30th.—New Hartford, Conn., cattle killed by lightning. Dyberry, Pa., thunderstorm. Salisbury, N. C., and Blacksburg, S. C., windstorms. Lake City, Fla., thunderstorm. Ovid, Iowa, 6 miles from St. Charles, Mo., 2 horses killed by lightning.

ATMOSPHERIC ELECTRICITY.

GENERAL STATISTICS.

The table on page 251 shows in detail for June, 1894, the number of stations from which meteorological reports were received, and the number of such stations reporting thunderstorms (T) and auroras (A) in each State and on each day of the month.

THUNDERSTORMS.

A mention of the more severe thunderstorms reported during the month is given under "Local storms." The dates on which reports of thunderstorms were most numerous were the 16th, 294; 17th, 257; 18th, 268; 21st, 227; 23d, 277; 24th, 295; 25th, 254; 26th, 289.

Thunderstorms and auroras, June, 1894.

States.	No. of stations.		1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	25.	26.	27.	28.	29.	30.	31.	Total.
Alabama	52	T.	....	....	....	....	....	1	....	....	1	1	....	....	....	2	2	4	3	4	3	1	1	2	3	6	3	2	....	....	1	....	....	40 T.
		A.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0 A.
Arizona	51	T.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	4	3	2	....	9 T.
		A.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0 A.
Arkansas	49	T.	....	....	....	....	6	....	....	....	1	4	....	....	....	....	1	2	2	4	....	2	5	7	2	....	....	....	....	....	....	....	....	36 T.
		A.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0 A.
Colorado	80	T.	3	10	6	3	5	3	2	5	....	....	....	1	2	8	21	5	....	1	....	4	6	9	3	7	2	....	....	1	....	....	....	107 T.
		A.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0 A.
California	175	T.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0 T.
		A.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0 A.
Connecticut	22	T.	....	6	....	8	....	....	....	....	....	1	....	4	....	....	....	....	....	5	5	2	5	....	2	....	....	1	1	1	....	8	....	49 T.
		A.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0 A.
Delaware	5	T.	....	....	1	....	2	....	....	....	....	....	....	2	....	....	....	....	....	1	2	1	....	....	....	4	....	....	1	1	....	1	....	16 T.
		A.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0 A.
District of Columbia	4	T.	....	....	....	1	....	....	....	....	....	....	....	1	1	....	....	....	1	1	....	....	....	....	....	1	....	1	1	....	....	1	....	9 T.
		A.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0 A.
Florida	35	T.	5	7	8	5	3	10	5	7	1	3	1	1	....	10	4	5	5	7	3	8	5	4	7	6	10	10	10	12	11	10	....	183 T.
		A.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0 A.
Georgia	63	T.	....	....	1	1	....	1	....	....	....	....	....	2	7	5	2	3	9	8	5	5	6	....	1	4	8	12	3	5	3	3	....	94 T.
		A.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0 A.
Idaho	23	T.	2	5	2	....	....	3	1	1	1	....	2	....	....	....	....	1	4	4	2	....	....	....	....	2	1	1	....	....	2	....	....	34 T.
		A.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0 A.
Illinois	59	T.	2	....	3	4	2	2	....	....	1	1	2	1	1	5	14	20	13	5	2	6	11	10	21	13	22	15	1	2	2	9	....	190 T.
		A.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	1 A.
Indiana	43	T.	....	....	....	3	1	....	....	....	....	....	1	3	3	....	2	7	4	1	1	7	6	3	2	8	3	7	.. .	2	....	2	....	66 T.
		A.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....	1 A.
Indian Territory	8	T.	....	....	....	....	3	....	....	....	....	1	....	....	....	....	....	....	2	....	....	....	1	1	....	....	....	....	....	....	....	....	....	....	8 T.
		A.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0 A.
Iowa	78	T.	....	1	....	1	....	....	....	....	15	9	3	....	1	7	15	12	2	....	10	9	15	9	20	5	5	10	8	2	10	12	....	181 T.
		A.	....	....	2	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	3 A.
Kansas	84	T.	....	....	5	2	5	....	1	5	7	10	1	....	....	1	8	8	3	11	2	7	15	5	3	8	14	3	4	3	....	....	....	131 T.
		A.	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1 A.
Kentucky	40	T.	....	....	....	1	9	3	....	....	....	1	....	2	5	1	....	5	7	6	2	3	1	3	4	6	5	9	4	1	2	....	....	80 T.
		A.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0 A.
Louisiana	53	T.	1	....	....	1	....	9	1	....	12	13	10	2	1	6	6	8	12	6	13	9	12	13	7	8	4	1	....	1	....	....	....	162 T.
		A.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0 A.
Maine	18	T.	1	1	....	2	1	....	....	....	....	....	7	....	....	....	....	8	4	7	5	3	....	....	6	....	....	6	6	1	....	1	....	59 T.
		A.	....	....	1	....	....	....	....	....	1	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....	1	....	1	....	....	....	....	5 A.
Maryland	24	T.	....	....	3	6	6	2	1	....	....	....	....	9	2	....	....	3	5	5	....	2	1	4	3	6	3	7	3	1	2	6	....	80 T.
		A.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0 A.
Massachusetts	82	T.	....	5	4	11	1	....	9	....	1	....	20	....	....	....	....	....	8	4	4	4	17	....	20	1	....	2	2	1	....	13	....	127 T.
		A.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0 A.
Michigan	85	T.	....	....	3	....	....	....	....	....	1	....	2	4	3	6	8	9	13	3	....	....	4	5	9	17	7	9	1	21	....	....	....	128 T.
		A.	....	....	1	1	....	....	....	....	2	1	....	....	....	....	....	....	....	....	....	....	....	....	....	8	1	....	....	....	....	....	....	8 A.
Minnesota	74	T.	....	....	....	....	....	....	....	....	10	....	9	5	5	7	15	4	....	1	6	20	6	11	24	6	7	12	17	2	5	2	....	174 T.
		A.	1	1	2	....	....	....	....	....	8	2	....	....	....	....	....	....	....	1	....	....	....	....	....	1	....	1	....	....	1	....	....	....	24 A.
Mississippi	50	T.	....	....	....	....	1	4	....	1	2	1	2	1	....	2	7	8	11	8	11	9	7	7	10	10	....	1	....	....	2	4	....	104 T.
		A.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0 A.
Missouri	97	T.	....	....	4	7	22	....	1	....	16	10	3	1	3	16	26	23	15	13	2	6	22	19	18	28	34	15	6	7	2	13	....	334 T.
		A.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0 A.
Montana	28	T.	1	....	3	1	2	3	3	6	....	....	....	....	....	....	....	1	3	5	3	4	3	1	3	....	1	....	1	....	1	....	....	40 T.
		A.	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	1	....	....	....	....	....	....	....	....	....	4 A.
Nebraska	67	T.	....	2	1	6	2	....	....	6	6	....	1	....	....	5	1	3	....	10	1	9	7	....	14	8	5	2	2	2	3	5	....	101 T.
		A.	....	....	....	....	....	....	....	....	7	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	7 A.
Nevada	20	T.	1	....	....	....	1	....	....	....	1	....	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	5 T.
		A.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1 A.
New Hampshire	25	T.	....	2	....	1	....	....	1	....	....	....	2	2	....	....	....	3	4	15	12	1	6	1	7	....	1	7	9	2	1	5	....	83 T.
		A.	2	....	1	2	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	1	....	....	....	....	2	....	9 A.
New Jersey	59	T.	1	1	2	21	5	1	2	1	....	....	1	2	7	....	1	12	5	3	15	8	4	2	....	17	1	9	7	....	4	18	....	150 T.
		A.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	1 A.
New Mexico	27	T.	....	....	1	3	....	2	1	2	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	11 T.
		A.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0 A.
New York	75	T.	....	1	9	7	1	1	....	....	1	1	1	....	15	....	....	1	12	13	23	16	2	1	2	5	22	10	18	5	1	11	4	....	183 T.
		A.	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	2	1	....	5 A.
North Carolina	57	T.	....	....	....	1	3	11	1	1	....	....	2	2	14	1	1	4	9	7	15	14	16	2	....	2	5	11	14	6	13	8	....	163 T.
		A.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0 A.
North Dakota	36	T.	....	1	....	....	....	....	....	1	3	1	....	....	1	2	....	....	....	4	1	....	1	....	....	3	1	6	....	....	....	....	....	25 T.
		A.	2	3	....	....	....	....	1	1	7	2	3	....	....	....	....	....	....	....	....	....	....	....	3	....	....	....	....	....	1	....	....	23 A.
Ohio	140	T.	9	....	14	21	5	....	....	....	....	....	....	18	12	4	2	36	32	29	....	5	11	9	24	49	35	56	18	49	26	11	....	475 T.
		A.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0 A.
Oklahoma	17	T.	....	....	....	....	4	....	....	....	1	3	....	....	....	1	1	1	....	....	....	....	1	3	....	....	....	....	....	....	....	....	....	....	15 T.
		A.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0 A.
Oregon	60	T.	1	7	4	1	....	....	....	....	....	....	....	....	....	4	5	8	2	1	....	....	....	....	1	....	1	1	....	....	....	....	....	36 T.
		A.	....	....	1	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	2 A.
Pennsylvania	85	T.	1	2	6	22	1	1	7	....	....	....	....	25	10	....	....	21	14	21	12	4	1	6	18	29	17	20	10	1	4	12	....	265 T.
		A.	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1 A.
Rhode Island	6	T.	....	....	1	2	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....	1	....	....	....	....	....	....	3	....	....	8 T.
		A.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0 A.
South Carolina	46	T.	....	....	....	....	....	3	1	....	....	....	1	....	7	....	....	1	6	9	7	8	8	1	1	5	15	9	11	11	12	9	....	125 T.
		A.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0 A.
South Dakota	41	T.	1	1	....	1	....	....	....	1	....	....	2	1	2	3	2	3	2	3	2	....	2	1	5	1	3	4	4	1	....	....	....	45 T.
		A.	....	....	1	1	....	....	....	....	7	3	1	1	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....	....	16 A.
Tennessee	42	T.	....	....	....	4	2	....	....	....	....	2	....	2	3	2	5	10	16	11	6	3	8	4	4	6	4	3	3	1	8	2	....	103 T.
		A.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0 A.
Texas	81	T.	1	2	1	....	7	3	1	1	2	4	4	3	6	10	5	9	5	....	1	1	1	1	....	....	....	....	....	....	....	....	....	68 T.
		A.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0 A.
Utah	36	T.	....	....	....	....	....	1	1	....	....	....	....	....	....	....	....	....	....	1	1	2	2	1	....	....	....	2	....	....	....	....	....	11 T.
		A.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0 A.
Vermont	15	T.	....	1	1	2	....	1	....	....	....	....	....	....	....	....	2	4	8	10	8	3	2	....	2	....	....	4	4	....	1	2	....	55 T.
		A.	....	....	....	....	1	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	2 A.
Virginia	41	T.	....	....	4	....	3	5	....	....	....	....	1	4	2	....	....	1	6	5	4	6	1	1	....	1	4	4	4	....	4	4	....	64 T.
		A.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0 A.
Washington	47	T.	....	23	13	2	....	....	....	....	1	....	....	....	....	....	....	1	3	4	....	....	....	....	....	....	....	....	....	....	....	....	....	....	47 T.
		A.	1	....	....	....	....	....	....	....	....	....	....	....	1	1	1	1	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	6 A.
West Virginia	7	T.	....	....	....	2	3	2	....	....	....	....	1	....	1	....	1	4	8	2	5	2	8	5	3	6	6	1	3	7	4	....	....	74 T.
		A.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1 A.
Wisconsin	64	T.	....	....	....	1	....	....	....	....	2	4	4	1	3	2	25	24	6	....	....	6	6	7	25	5	16	7	8	10	1	....	....	163 T.
		A.	....	1	5	....	....	....	....	2	3	2	....	....	....	....	....	....	....	....	....	1	....	....	1	3	....	1	....	1	....	1	....	....	21 A.
Wyoming	12	T.	1	....	1	....	1	....	....	1	....	....	....	....	....	1	....	1	....	....	1	....	....	1	....	....	....	....	....	....	1	....	....	....	9 T.
		A.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0 A.
Sums	2,488	T.	31	80	103	147	111	73	40	35	86	71	81	121	101	112	183	294	257	268	188	190	227	166	277	295	254	289	174	155	142	171	....	4722 T.
		A.	7	6	16	4	1	2	1	3	37	10	4	2	2	2	2	1	0	1	0	2	1	2	2	9	2	4	1	2	5	11	....	142 A.

The States from which the reports of thunderstorms were most numerous were: Ohio, 475; Pennsylvania, 265; Illinois, 190; New York and Florida, 183; Iowa, 181; and Minnesota, 174.

AURORAS.

The evenings on which bright moonlight must have interfered with observations of faint auroras are assumed to be the four days preceding and following the date of full moon, viz, from the 13th to the 23d, inclusive. On the remaining twenty-one days of the month 142 reports were received, or an average of 6 per day. The dates on which the reported number especially exceeded this average were the 3d (16), 9th (37), 10th (10). The States from which auroras were reported by a large percentage of observers were: New Hampshire, 9; North Dakota, 23; South Dakota, 16; Wisconsin, 21.

DAMAGE BY LIGHTNING.

The following statistics of the damage done by lightning in May and June, as reported by the observers of this Bureau, are furnished by Mr. Alex. McAdie.

During May, 1894, 45 persons were killed by lightning; 34 persons were struck and severely injured; 12 barns were set on fire, with an estimated loss of $35,000; 37 dwellings, 4 churches, and 1 schoolhouse were struck and damaged to greater or less extent; 58 horses and 22 cows were killed.

During June, 1894, 96 persons were killed and 102 severely injured; 69 barns were struck, with an estimated loss of $49,000; 49 horses, 30 cows, and 15 sheep were killed; 80 dwellings were struck and more or less damaged; 22 churches, 1 railroad depot, 1 oil tank, 1 grain elevator, and 6 mills and factories were struck, the damage in the case of the eight last-named being not less than $257,500.

INLAND NAVIGATION.

STAGE OF WATER IN RIVERS.

The following table shows the danger point and the highest and lowest stages for the month of June, 1894:

Heights of rivers above low-water mark, June, 1894.

Stations.	Danger-point on gauge.	Highest water.		Lowest water.		Monthly range.
		Height.	Date.	Height.	Date.	
Red River.	*Feet.*	*Feet.*		*Feet.*		*Feet.*
Shreveport, La.	29.2	17.2	1	6.0	30	11.2
Arkansas River.						
Fort Smith, Ark.	22.0	9.8	18	2.2	2	7.6
Little Rock, Ark.	23.0	9.9	20	4.9	4, 16	5.0
Missouri River.						
Fort Buford, N. Dak.	25.0	.....	.....	.....	.....	.....
Bismarck, N. Dak.	75.0	.....	.....	.....	.....	.....
Pierre, S. Dak.	13.0	.....	.....	.....	.....	.....
Sioux City, Iowa.	18.7	15.7	17, 18	12.0	1	3.7
Omaha, Nebr.	18.0	14.9	19	10.9	1	4.0
Kansas City, Mo.	21.0	20.1	20, 21	13.6	2	6.5
Mississippi River.						
St. Paul, Minn.	14.0	7.1	1	2.8	29	4.3
La Crosse, Wis.	10.0	9.5	1	4.3	30	5.2
Dubuque, Iowa.	16.0	14.1	1	4.8	29, 30	9.3
Davenport, Iowa.	15.0	12.2	1	3.3	29	8.9
Keokuk, Iowa.	14.0	11.4	4	3.5	30	7.9
Hannibal, Mo.	17.0	12.2	5, 6	4.3	30	7.9
St. Louis, Mo.	30.0	18.3	29	16.7	19, 20	1.6
Cairo, Ill.	40.0	26.1	3	17.6	28	8.5
Memphis, Tenn.	33.0	18.4	5, 6	11.8	30	6.6
Vicksburg, Miss.	41.0	25.8	10	17.2	30	8.6
New Orleans, La.	13.0	11.0	1	6.1	30	4.9
Ohio River.						
Parkersburg, W. Va.	38.0	11.0	7	3.6	25, 28, 29	7.4
Cincinnati, Ohio.	45.0	20.6	1	7.5	25, 29, 30	13.1
Louisville, Ky.	24.0	9.2	1	4.6	27, 29	4.6
Cumberland River.						
Nashville, Tenn.	40.0	6.3	1	1.7	28, 29	4.6
Tennessee River.						
Chattanooga, Tenn.	33.0	4.3	30	2.0	17	2.3
Knoxville, Tenn.	29.0	.....	.....	.....	.....	.....
Monongahela River.						
Pittsburg, Pa.	22.0	8.4	5	2.8	15	5.6
Savannah River.						
Augusta, Ga.	32.6	14.7	29	4.9	15, 18	9.8
Willamette River.						
Portland, Oregon.	15.0	33.0	7	23.3	30	9.7
Susquehanna River.						
Harrisburg, Pa.	17.0	.....	.....	.....	.....	.....
Alabama River.						
Montgomery, Ala.	48.0	3.4	29	0.5	14	2.9
James River.						
Lynchburg, Va.	18.0	1.2	8, 9	0.2	{ 16, 19-21, } { 23, 25, 26 }	1.0
Sacramento River.						
Red Bluff, Cal.	22.0	5.7	5	2.0	28-30	3.7
Sacramento, Cal.	25.0	21.3	1	16.0	30	5.3
Des Moines River.						
Des Moines, Iowa.	19.0	3.0	1-3, 25-30	2.8	11-23	0.2

FLOODS.

The above table shows that in the rivers here recorded the waters had risen above the danger line at Portland, Oreg., in the preceding month and that the flood in the Willamette and Columbia rivers continued during the whole of June, rising to a maximum of 33.0 feet, on the 7th, at Portland, and having fallen to only 23.5 feet on the 30th.

The following additional notes of floods in rivers are summarized from special reports and newspapers:

Arkansas River.—Pueblo, Colo., 6th, the Arkansas River began to rise about daylight, causing Fountain Creek to overflow, damaging bridges and flooding railroad tracks. The floods of May 31st and June 6th are attributed to so-called "cloud-bursts" in the adjacent mountains, or foothills.

Willamette River.—The river attained a height of 31.8 feet at Portland, Oreg., on the 4th, and 32.2 feet on the 5th; at midnight of the 6th the river reached its maximum height of 33.0 feet; the inundated portion of the city extended eleven blocks back from the river, and covered the better half of the business portion of the city. The flood far exceeded anything known to history or tradition; the water rose 4.3 feet above the high water of 1890, and 4.7 feet above that of 1876. This flood in the Willamette was principally due to the backing up of its waters by the flood in the Columbia.

Columbia River.—On the 5th, at Umatilla, the Columbia was at its maximum gauge reading, 34.5 feet; this great rise is attributed to the melting of the snow during the warm days beginning May 29, when nearly every mountain stream throughout the valleys of the Columbia, Fraser, and Snake rivers was greatly swollen and added greatly to the high water already present in the main streams. The experiences of this remarkable flood have served to emphasize the need of a more complete system of river flood reports for the protection of Portland, Oreg.

Fraser River.—At Westminster, on the 7th, the Fraser River reached its highest point, but a special flood wave, due to the cloud-burst at Lytton on the 6th, was expected to arrive the next day and might possibly add a little to this maximum. This flood was like that of the Columbia, several feet higher than any previously recorded and, like it, is attributed to the rapid melting of the snow on the warm days that culminated on the 2d of June when, as before stated, the maximum temperatures for the month were experienced in this section. These unusual temperatures occurred in connection with southerly winds blowing from a region of high pressure over the central Rocky Mountain plateau toward a region of low pressure on the coast of British Columbia, and as little or no rain accompanied them, it is presumable that the high temperatures originated like those of the fœhn winds and the chinook.

Rio Grande River.—The Rio Grande, draining the western portion of Colorado, flooded several small regions on the 1st in connection with local cloud-bursts in the mountains and parks of that State.

LOW WATER AND NAVIGATION.

Ohio River.—The very low stage of water in the Ohio River caused the general suspension of river navigation above Maysville during the latter part of the month.

OBSERVATIONS ON THE GREAT LAKES.

REPORTS FROM VESSELS.

The Lake Marine Section of the Forecast Division has received reports from the captains of 73 vessels navigating the Great Lakes. The following miscellaneous items are extracted from their reports:

Capt. W. S. Hoag, steamship ***Barge* 130**, 2d, western Lake Huron, northern lights from 8 p. m. to midnight. 9th, northeastern Lake Michigan, northern lights from 8 to 10.30 p. m.

Capt. George Holdridge, steamship ***Barge* 132**, 9th, eastern end of Lake Superior, northern lights from 9.30 p. m. to midnight.

Capt. John Lowe, steamship ***Kaliyuga***, 3d, southeastern Lake Superior, northern lights from 11 p. m. to past midnight.

Capt. R. J. Crowley, steamship ***Roumania***, 9th, Lake Huron, between Detroit and Presque Isle, northern lights from 10 to 12 p. m.

Capt. F. A. Grans, steamship ***Matoa*** 3d, Sault Ste. Marie, northern lights.

Capt. C. Petersen, steamship ***Robert L. Fryer***, 4th, Lake Huron, northern lights from midnight to 2 a. m.

Capt. Thomas Hackett, steamship ***Volunteer***, 3d, Lake Huron, northern lights.

Capt. Edward Mooney, steamship ***Wa-Wa-Tam***, 9th, southern Lake Superior, northern lights from 8 p. m. to 3 a. m., 10th.

Capt. W. P. Robertson, steamship ***Petoskey***, 9th, northeastern Lake Michigan, northern lights from 10 p. m. to 2 a. m., 10th.

Capt. R. Jollie, steamship ***C. B. Lockwood***, 9th, St. Marys River, northern lights.

Capt. J. W. Morgan, steamship ***Australasia***, 9th, Lake Superior, northern lights from 9.15 to 10.30 p. m.

REPORTS FROM U. S. LIFE-SAVING STATIONS.

Through the co-operation of the General Superintendent of the Life-Saving Service and the Secretary of the Treasury, the Weather Bureau has received monthly reports for the month of June from the keepers of 36 U. S. Life-Saving Stations on the Great Lakes.

SUNSHINE AND CLOUDINESS.

GENERAL REMARKS.

The quantity of sunshine, and therefore of heat, received by the atmosphere is a fundamental factor in meteorology; the quantity received by the atmosphere as a whole is very nearly constant from year to year, but the proportion received by the surface of the earth depends largely upon the distribution of cloudiness. The sunshine is now recorded automatically at about 38 regular stations of the Weather Bureau, either by its photographic or its thermal effects. The cloudiness is recorded by personal observations at all stations and is given in the column of "average cloudiness" in Table I.

SUNSHINE.

An instrumental record of sunshine has been kept during the month at 17 stations by means of the photographic sunshine recorder and at 21 stations by means of the thermometric sunshine recorder; the results of these observations are given in Table IV, for each hour of local mean time (not seventy-fifth meridian time). The stations recording the largest percentages of sunshine between the hours of 11 a. m. and 1 p. m. were: Columbus, Ohio, 95; Detroit, 92.5; Little Rock, 94.5; Louisville, 92.5; Memphis, 95.5; St. Louis, 97; Santa Fe, 94. The stations reporting the smallest percentages were: Portland, Oreg., 42; Eastport, 40.

The general average percentage of sunshine for the month is given in the next to the last column of Table IV. The highest percentages were: Tucson, 99; St. Louis, 91; Santa Fe, 88. The lowest percentages were: Eastport, 31; Portland, Oreg., 35.

CLOUDINESS.

The average cloudiness between sunrise and sunset, as based on numerous personal observations, is given for each Weather Bureau station in Table I; the complement of this average cloudiness gives the observer's estimated percentage of clear sky, and these latter numbers are given in the last column of Table IV.

COMPARISON OF SUNSHINE AND CLEAR SKY.

The sunshine registers give the duration of direct sunshine whence the percentage of possible sunshine is derived; the observer's personal estimates give the percentage of area of clear sky. It should not be assumed that these numbers should agree, and for comparative purposes they have been brought together, side by side, in the following table, from which it appears that, in general, the instrumental record of percentages of duration of sunshine is almost always larger than the observer's personal estimates of percentages of area of clear sky; the average excess for this month is 6 per cent for photographic records and 15 per cent for thermometric records:

Difference between instrumental and personal observations of sunshine.

Photographic stations.	Instrumental.	Personal.	Difference.	Thermometric stations.	Instrumental.	Personal.	Difference.
Tucson, Ariz	99	92	7	St. Louis, Mo	91	73	18
Santa Fe, N. Mex	88	81	7	Little Rock, Ark	80	61	19
Cincinnati, Ohio	79	57	22	Columbus, Ohio	78	56	22
Memphis, Tenn	79	80	— 1	Louisville, Ky	78	56	22
Dodge City, Kans	77	63	14	Colorado Springs, Colo.	74	61	13
Kansas City, Mo	77	67	10	Detroit, Mich	74	61	13
Denver, Colo	77	66	11	Philadelphia, Pa	73	55	18
Washington, D. C	74	69	5	Salt Lake City, Utah	72	58	14
Galveston, Tex	73	72	1	Chicago, Ill	71	58	13
Cleveland, Ohio	72	58	14	Vicksburg, Miss	69	65	4
Bismarck, N. Dak	71	67	4	Portland, Me	68	33	35
Savannah, Ga	64	56	8	Wilmington, N.C.	66	60	6
San Diego, Cal	64	74	—10	New Haven, Conn	65	48	17
San Francisco, Cal	62	56	6	Buffalo, N. Y	64	52	12
Helena, Mont	48	45	3	Boston, Mass	62	40	22
Portland, Oreg	35	31	4	Key West, Fla	61	33	28
Eastport, Me	31	29	2	New Orleans, La	58	59	— 1
				New York, N. Y	58	51	7
				Rochester, N. Y	50	51	— 1
				Baltimore, Md	.....	66	.....
				Des Moines, Iowa	.....	68	.....

NOTES BY THE EDITOR.

RECORD OF AURORAS AT WILLETS POINT, N. Y.

A record of the display of the aurora was maintained from February, 1870, to December, 1885, by the battalion of engineers at Willets Point, New York Harbor (lat. 40° 47′ 21″ N., long. 4h. 55m. 7s. W.). Three sentinel posts were guarded nightly by soldiers of the battalion, who remained on duty from sunset to sunrise, and each was required to report whether he had seen any auroral light during the night, and also whether the sky had been sufficiently clear to permit any aurora to be visible. The average of the reports of these

three independent observers is considered to be the record of the station for that night.

The details of the results of this important work were published annually in the printed general orders of the battalion and were rearranged by the present editor and reprinted for the years 1870 to 1880 as Appendix III in Professional Papers No. III of the U. S. Signal Service. The following summary of the complete aurora record for sixteen years has been compiled from data furnished by the Chief of Engineers:

TABLE 1.—*Auroras and clear nights observed at Willetts Point, N. Y.*

Year.	January.		February.		March.		April.		May.		June.	
	A.	C.	A.	C.	A.	C.	A.	C.	A.	C.	A.	C.
1870	.....	.....	1.0	16.2	3.7	16.5	3.7	15.2	1.3	14.8	2.0	15.8
1871	2.5	15.0	1.0	14.5	9.0	14.0	9.0	18.0	10.5	19.5	5.5	17.0
1872	2.5	21.0	4.0	21.0	2.5	18.0	6.0	19.5	5.5	25.5	6.0	16.0
1873	6.3	16.8	8.3	22.0	7.7	18.0	5.7	15.6	2.6	16.0	6.7	20.6
1874	2.0	13.7	2.0	13.7	1.3	18.0	2.3	16.7	0.3	19.3	0.3	13.3
1875	0.4	17.2	2.5	16.2	1.5	13.8	1.5	13.0	2.5	16.2	0.0	16.2
1876	0.0	16.3	2.0	15.3	1.3	18.4	0.0	19.3	0.3	15.7	0.0	17.3
1877	0.0	19.3	0.0	18.7	1.3	12.3	2.3	12.0	2.0	15.0	0.0	16.3
1878	1.0	15.7	0.0	15.0	0.0	14.0	0.0	10.6	0.0	18.0	0.3	15.5
1879	0.0	19.0	0.6	16.7	0.0	16.7	1.3	15.0	1.6	18.7	3.0	17.3
1880	0.0	14.7	0.0	17.3	1.3	16.3	1.3	18.0	0.3	18.7	0.0	19.3
1881	0.0	18.7	2.3	15.3	0.0	13.3	2.7	18.0	2.3	14.3	0.7	13.0
1882	3.0	14.7	3.3	17.0	4.0	18.3	10.0	19.0	2.0	13.0	6.0	21.7
1883	0.0	10.0	2.3	15.3	3.3	22.0	2.7	15.3	0.3	16.7	1.0	17.0
1884	1.3	12.7	2.0	8.3	1.6	12.3	0.3	12.7	0.0	17.7	0.0	18.3
1885	0.0	14.7	1.7	14.7	0.0	14.0	0.3	18.0	3.3	14.0	1.7	21.0

Year.	July.		August.		September.		October.		November.		December.	
	A.	C.	A.	C.	A.	C.	A.	C.	A.	C.	A.	C.
1870	1.7	19.8	5.7	19.2	10.3	17.2	7.7	16.5	6.7	19.5	6.3	13.5
1871	6.5	20.0	2.5	22.5	3.0	20.5	2.5	20.0	5.5	17.5	2.0	12.5
1872	5.0	20.0	7.0	20.5	5.0	15.0	7.5	17.5	4.5	21.0	4.5	19.0
1873	6.3	16.3	4.0	15.0	3.7	17.0	1.7	19.7	0.7	17.7	0.3	19.7
1874	1.3	15.0	1.3	19.3	1.7	15.3	4.0	16.0	1.3	21.3	0.0	14.0
1875	0.4	16.2	0.0	16.0	2.5	21.5	0.7	16.7	1.5	15.5	0.0	10.2
1876	0.0	16.3	0.0	20.0	2.0	11.7	2.7	17.0	1.0	11.0	0.0	16.3
1877	0.3	13.7	0.0	16.6	0.0	18.0	0.3	15.3	1.0	15.0	0.0	18.0
1878	0.0	15.3	0.0	14.7	0.0	17.7	0.0	19.0	0.6	15.0	0.0	14.7
1879	1.0	16.3	0.0	15.0	1.3	22.3	0.0	21.3	0.0	15.0	0.0	10.7
1880	1.0	18.3	3.0	18.0	1.0	18.3	2.0	20.7	3.0	16.0	0.0	20.0
1881	2.7	14.3	0.0	17.3	4.0	18.7	2.0	17.7	1.7	15.7	4.7	14.7
1882	3.3	18.3	6.3	21.0	1.3	12.0	5.0	12.7	7.3	17.0	3.3	16.0
1883	5.3	21.7	1.3	26.3	3.3	16.0	2.3	18.3	2.0	18.7	0.3	17.7
1884	0.0	15.3	0.0	15.7	3.0	22.7	1.3	15.7	1.3	17.7	1.3	11.3
1885	0.7	20.3	0.7	15.7	1.3	22.7	0.7	20.0	0.3	15.0	0.0	17.7

Table 1 shows for each month, and for the year, the number of auroras in column A and the number of clear nights in column C; the decimal fractions result from the fact that each datum is the average of the records of the three sentinels; the differences between the reports of individual sentinels can be investigated by referring to the tables published in the printed orders of the battalion and generally republished in the annual reports of the Chief of Engineers; these differences are probably to a slight extent personal, but often also are due to the uncertainty as to whether certain faint lights were of an auroral nature or not. The peculiar value of this series consists in three features: (1) the continued presence of three observers on every night throughout the whole series; (2) the continuous examination of the entire visible sky throughout the whole night; (3) the record of nights that were clear enough to see an aurora if present. There are but few series of auroral observations in which this third feature has been properly attended to, and I suppose that there is no other series in which the first and second features have been maintained for so long a number of years. In comparing the records for different localities and years, it has, ordinarily, been necessary to assume that the number of clear nights averaged about the same at the different stations, and that, therefore, the number of observed auroras indicated the relative frequency, without any further correction. It has also sometimes been considered proper to deduce the total number of theoretically possible auroras for the whole year by assuming that the same proportion of auroras would have been visible during cloudy nights as has actually been observed on clear nights. This assumption, however, implies that the aurora has little or nothing to do with the clouds, that it exists in the upper atmosphere quite independent of the lower clouds, and that the latter simply hide it from view. If there were no causal relation between the aurora and the cloud, the above assumption would be valid, and the computed total number of possible auroras could be used as an index of auroral frequency. But it is far better to avoid this assumption, which we may do by dividing the number of observed auroras by the number of clear nights on which they could have been seen, if present; the quotient expressed as a percentage will then simply state an observed fact, uncomplicated with any hypothesis, viz, that auroras were actually observed on the given percentage of clear nights.

TABLE 2.—*Secular period of auroral frequency.*

Year.	No. of clear nights observed.	No. of clear nights with auroras.	Auroral frequency, per cent.	No. of cloudy nights.	Possible auroras on cloudy nights.	Sum of observed plus possible.
1870	184.2*	50.1*	27.2*	150*	49†	99
1871	211.0	59.5	28.2	154	44	104
1872	234.0	60.0	25.6	132	34	94
1873	213.6	54.0	25.3	*151	38	92
1874	189.6	17.5	9.2	175	17	35
1875	188.7	13.5	7.2	178	13	27
1876	194.6	9.3	4.8	171	8	17
1877	190.8	7.2	3.8	174	6	13
1878	185.0	1.9	1.0	180	2	4
1879	204.0	8.8	4.3	161	7	16
1880	215.6	12.9	6.0	150	9	22
1881	191.0	23.1	12.1	174	21	44
1882	201.0	55.0	27.4	164	44	99
1883	215.0	24.1	11.2	150	17	41
1884	180.3	12.1	6.7	186	12	24
1885	207.8	10.7	5.2	157	8	19

* During 11 months.

† This figure is obtained by assuming that during the 150 cloudy nights and the 31 days of January, 1870, when no observations were attempted, auroras were as frequent as during the 184 clear nights on which 50 were observed.

TABLE 3.—*Annual period of auroral frequency during the* 16 *years,* 1870 *to* 1885, *inclusive.*

Month.	No. of clear nights observed.	No. of clear nights with auroras.	Auroral frequency, per cent.	No. of cloudy nights.	Possible auroras on cloudy nights.	Sum of observed plus possible.
January	238.7*	19.0*	8.0*	226.3*	20.5†	39.5
February	257.2	33.0	12.8	194.8	24.9	57.9
March	255.9	38.5	15.0	240.1	36.0	74.5
April	250.5	49.1	19.6	229.5	45.0	94.1
May	273.1	34.8	12.7	222.9	28.3	63.1
June	275.6	33.2	12.0	204.4	24.5	57.7
July	277.1	35.5	12.8	218.9	28.0	63.5
August	292.8	31.8	10.9	203.2	22.1	53.9
September	286.6	43.4	15.1	193.4	29.2	72.6
October	284.1	40.4	14.2	211.9	30.0	70.4
November	268.6	38.4	14.3	211.4	30.2	68.6
December	246.0	22.7	9.2	250.0	23.0	45.7

* During 15 years.

† This figure is obtained by assuming that during the 31 days of January, 1870, auroras were as frequent as during the 238.7 clear nights of the remaining Januarys; the 2.5 auroras thus hypothecated are added to the other 18 auroras hypothecated for the 226 cloudy nights.

Tables 2 and 3 show the numbers of clear nights and auroras for the respective years, and also for the respective months, at Willetts Point, and for comparative purposes there are given both forms of computation, in parallel colums, viz, (1) the percentages of auroral nights; (2) the sum total of observed and possible auroras. The reader will see that there is sometimes an appreciable difference between these two modes of computation; the former is always preferable as involving no hypothesis.

In general it will be seen that the secular period of the auroral frequency parallel to that of the sun spots is well

marked. In the annual period it will be seen that the months of greatest frequency are those of the equinoxes, viz, April and September, and the months of least frequency are December and January, corresponding exactly to a well-known generalization first announced by Mairan and modified by Lovering, but explained by Mr. E. B. Elliott, of Washington, in 1872 (Bull. Phil. Soc., Vol. I, p. 45), according to whom the number of auroras depends on the rate at which the earth, in its annual orbit, cuts through cosmic lines of electric force.

DISCHARGE OF STREAMS DURING FLOODS.

This Bureau has received from John E. Codman, of the Bureau of Water Supply, Philadelphia, copies of the automatic records of the rain gauges for three different localities in Pennsylvania, about 35 miles apart, viz: (1) corner of Thirty-second and Spruce streets, Philadelphia; (2) the Forks of the Neshaminy; (3) Frederick Post-office, Spring Mount. These show the total amount and the rate of rainfall during the ten days, May 19–28, 1894; the maximum rate during several hours was 2.04 inches per hour at station No. 1; 1.03 at station No. 2; and 2.90 at station No. 3. These stations are in the watershed of streams that flow into the Schuylkill River. The registering stream gauge in the Perkiomen showed a maximum rise of 17 feet, and a discharge for about two hours at the rate of 100 cubic feet per second for each of its 152 square miles of watershed. The Neshaminy stream gauge showed a rise of 16.3 feet and a discharge for two hours of about 100 cubic feet per second for each of its 139.3 square miles of watershed. The Yohickon guage showed a rise of 13.2 feet, and a flow for about two hours of 100, or a little more, cubic feet per second for each of its 102.2 square miles of watershed. These are greater discharges than any that have been recorded within the past ten years or since the records began, although it is stated that these streams were two or three feet higher in 1869.

OBSERVATIONS AT HONOLULU, HAWAIIAN ISLANDS.

As the weather on the Pacific coast depends so largely upon the conditions of the atmosphere to the westward, it is considered important to publish in full and as soon as practicable the data furnished by observers in Alaska, the Hawaiian Islands, and adjacent regions.

Meteorological observations at Honolulu, Hawaiian Islands, for June, 1894, by Curtis J. Lyons, Meteorologist to the Government Survey.

Date.	Barometer at sea level.			Temperature.					Humidity.			Wind.		Cirrus cloud moving from—	Rain to 6 a. m.
	9 a. m.	3 p. m.	9 p. m.	6 a. m.	2 p. m.	9 p. m.	Minimum.	Maximum.	Relative. 9 a.m.	Relative. 9 p.m.	Absolute.	Direction.	Force.		
	Ins.	*Ins.*	*Ins.*	°	°	°	°	°	%	%					*Ins.*
1 ..	30.18	30.10	30.17	73	79	74	73	83	63	78	6.8	ne.	4, 5,	.....	0.00
2 ..	30.15	30.09	30.13	72	78	74	70	80	71	67	6.6	nne.	3	.....	0.12
3 ..	30.12	29.97	30.13	73	79	74	70	81	59	67	6.1	ne.	4	.....	0.15
4 ..	30.13	30.07	30.14	74	80	74	73	82	53	67	5.7	ene.	5, 3	.....	0.00
5 ..	30.11	30.07	30.15	73	79	74	72	81	64	70	6.3	ene.	3	.....	0.00
6 ..	30.14	29.98	30.12	67	81	73	67	83	60	69	6.3	ne.	3	W.	0.00
7 ..	30.13	30.06	30.12	73	82	73	66	82	60	74	6.6	e.	3	.....	0.00
8 ..	30.12	30.05	30.14	66	80	70	65	82	67	85	6.6	n., s.	1	s.	0.00
9 ..	30.10	30.06	30.13	70	80	71	66	86	70	83	6.8	s., e.	1, 3, 0	s. 30 w.	0.00
10 ..	30.10	30.02	30.08	68	80	74	66	83	70	74	7.1	s., ne.	2	.....	0.00
11 ..	30.08	30.02	30.08	74	80	75	72	82	61	64	6.6	ne.	3	n. 40 w.	0.00
12 ..	30.10	30.06	30.14	74	78	75	73	81	63	71	6.6	ne.	3, 6	.....	0.00
13 ..	30.15	30.12	30.13	74	79	74	72	80	60	66	6.2	ene.	6, 7	.....	0.01
14 ..	30.19	30.12	30.10	73	76	73	73	80	70	74	6.3	ene.	5	.....	0.01
15 ..	30.13	30.03	30.10	70	77	72	68	80	70	70	6.1	nne.	4	.....	0.16
16 ..	30.09	30.02	30.07	72	79	73	69	81	62	66	6.0	ne.	4	.....	0.09
17 ..	30.07	30.01	30.07	70	79	72	69	82	56	70	6.1	ne.	3	.....	0.00
18 ..	30.09	30.05	30.14	66	79	73	66	82	66	73	6.3	n, w., ne.	2	s. 80 w.	0.00
19 ..	30.15	30.09	30.16	72	75	75	71	83	60	70	6.6	ne.	3	s. 70 w.	0.01
20 ..	30.16	30.08	30.14	72	79	73	72	82	74	80	7.1	ne.	3, 5	.....	0.01
21 ..	30.14	30.07	30.12	72	78	72	71	82	66	80	6.8	ne.	4	.....	0.16
22 ..	30.13	30.09	30.18	72	80	74	71	81	67	74	6.8	ne.	4	.....	0.07
23 ..	30.18	30.12	30.18	73	81	74	72	83	67	67	6.5	ne.	4	.....	0.02
24 ..	30.17	30.12	30.15	73	80	75	70	83	60	70	6.6	ne.	4	s. 75 w.	0.05
25 ..	30.16	30.12	30.16	73	80	74	72	82	64	66	6.5	ne.	4	.....	0.04
26 ..	30.17	30.13	30.20	73	80	75	71	82	69	66	6.2	ne.	4	.....	0.01
27 ..	30.21	30.14	30.20	74	78	75	73	81	58	66	6.1	ene.	5	s. 45 w.	0.00
28 ..	30.19	30.13	30.19	73	79	73	72	80	65	74	6.2	ne.	5	s.	0.00
29 ..	30.19	30.13	30.19	72	78	74	70	80	74	70	6.6	ne.	5	.....	0.03
30 ..	30.16	30.09	30.13	72	78	74	69	80	74	65	6.2	ne.	4	.....	0.14
Mean.	30.140	30.085	30.140	71.8	79.4	73.5	70.1	81.7			6.4				0.98
		30.112			74.9										

The barometer is corrected for temperature and reduced to sea level, but the gravity correction, —0.06, is still to be applied.

The absolute humidity is expressed in grains of water, per cubic foot, and is the average of four observations daily.

The rain is measured at 6 a. m., daily.

The extremes of the force of the wind are given when it has varied more than usual.

4th, very dry air. 8th, convectional pillars of clouds. 10th, spiral whirl of lower clouds. 14th, light earthquake on Hawaii. 19th, lower clouds from east. 28th, disturbance.

For the month of June pressure was .04 above normal; temperature 1.5° below normal; humidity and rainfall low.

METEOROLOGICAL TABLES.

[*Prepared by the Division of Records and Meteorological Data.*]

The following pages present in tabular form the climatological data for the current month, on which the text of the preceding part of this REVIEW has, to a large extent, been based.

For a detailed description of the methods of observation, compilation, and computation relating to these tables, the reader is referred to page 129 of the MONTHLY WEATHER REVIEW for March, 1894. The general contents of the tables are as follows:

Table I gives for 140 Weather Bureau stations, making two observations daily, and for 10 others making only one observation, the ordinary climatological data.

Table II gives for about 2,200 stations, occupied by voluntary observers, the mean and extreme temperatures and the total precipitation.

Table III gives climatological data for about 30 Canadian stations.

Table IV *a* gives for 38 Weather Bureau stations the percentages of sunshine for each hour of local mean time.

Table IV *b* gives for 43 Weather Bureau stations the total hourly rainfall for each hour of seventy-fifth meridian time.

Table V gives for 81 stations the mean temperatures for each hour of seventy-fifth meridian time.

Table VI gives for 66 stations the mean pressures for each hour of seventy-fifth meridian time.

Table VII gives for 138 stations the mean hourly movement of the wind.

Table VIII gives for 68 stations the resultant movements and directions of the wind from continuous registrations.

Table IX gives for 140 stations the component and resultant directions based on simultaneous observations at 8 a. m. and 8 p. m., seventy-fifth meridian time.

TABLE I.—*Climatological data for Weather Bureau Stations, June, 1894.*

Districts and stations.	Elevation above sea-level, feet.	Length of record, years.	Pressure, in inches.			Temperature of the air, in degrees Fahrenheit.								Humidity and precipitation.				Wind.				Clear days.	Partly cloudy days.	Cloudy days.	Average cloudiness, tenths.	Mean temperature data since opening of station.			
			Mean pressure, 8 a. m. and 8 p. m. + 2.	Mean reduced.	Departure from normal.	Mean max. and min. + 2.	Departure from normal.	Maximum.	Date.	Mean maximum.	Minimum.	Date.	Mean minimum.	Greatest daily range.	Mean temperature of the dew-point.	Mean relative humidity, per cent.	Precipitation, in inches.	Departure from normal.	Days with .01, or more.	Total movement, miles.	Prevailing direction.	Maximum velocity. Miles per hour.	Maximum velocity. Direction.	Maximum velocity. Date.				Highest month.	Year.	Lowest month.	Year.
New England.						63.8	+ 1.0										1.26	— 1.0												
Eastport	76	22	29.85	29.94	+ .01	52.6	— 2.7	72	23	60	42	2	46	26	48	88	3.37	— 0.4	10	5,029	sw.	28	ne.	23	2	16	12	7.1	57.6	1883	52.6	*
Portland	103	23	29.81	29.91	— .03	63.2	+ 0.9	94	17	72	44	6	54	34	54	75	2.01	— 1.4	10	5,101	s.	26	s.	1	2	16	12	6.7	66.8	1884	60.5	1893
Northfield	872	8	29.02	29.94	+ .01	64.5	+ 3.4	89	16	76	30	7	53	41	58	80	1.71	— 2.3	12	5,876	s.	32	n.	4	8	13	9	4.9	65.0	1893	60.6	1890
Boston	125	24	29.83	29.96	.00	68.8	+ 2.9	95	17	78	47	6	59	32	56	70	0.80	— 2.5	6	7,594	sw.	30	s.	2	4	20	0	6.0	69.6	1892	60.6	1881
Nantucket	14	8	30.00	30.01	+ .03	61.3	+ 0.7	82	23	67	46	7	56	21	56	87	0.81	— 1.9	8	7,511	w.	28	n.	24	12	9	9	5.1	63.6	1889	59.7	1893
Woods Holl	.....	17	.....	.....	.....	62.3	— 0.2	81	23	67	48	14	57	17	.....	.....	1.23	— 1.6	10	10,533	sw.	37	w.	11	8	11	11	5.8	65.6	1880	60.4	1881
Vineyard Haven	.....	8	.....	.....	.....	66.8	+ 0.7	88	23	75	47	14	59	25	.....	.....	1.47	— 0.9	8	.....	sw.	.....	.....	.....	12	4	14	....	68.4	1889	63.4	1887
Block Island	27	14	29.97	30.00	+ .01	62.2	+ 0.6	85	23	68	48	7	56	24	58	87	0.51	— 2.6	6	11,428	sw.	36	ne.	24	9	15	6	5.2	64.4	1883	60.0	1881
Narragansett Pier	.....	13	.....	.....	.....	65.8	+ 1.2	91	23	75	42	*	57	29	.....	.....	0.88	— 1.6	8	.....	sw.	.....	.....	.....	13	0	17	....	67.8	1892	62.6	1886
New Haven	107	22	29.86	29.97	— .02	68.0	+ 2.7	93	23	78	45	14	58	31	64	87	0.49	— 2.8	7	5,093	sw.	24	w.	4	10	14	6	5.2	72.2	1876	62.4	1881
New London	45	24	29.96	30.01	— .02	65.8	+ 1.0	91	23	74	46	14	58	30	61	85	0.53	— 2.8	10	4,651	sw.	27	sw.	2	9	13	8	5.3	68.1	1880	62.0	1881
Mid. Atlantic States.						72.3	+ 1.0										2.22	— 1.5												
Albany	85	21	29.86	29.97	+ .02	69.8	+ 2.0	92	16	80	46	*	60	33	60	74	3.29	— 0.6	9	4,773	s.	30	sw.	5	10	13	7	4.9	72.5	1884	65.0	1878
New York, N. Y	185	24	29.80	30.00	+ .01	70.6	+ 2.3	94	23	80	48	7	62	25	58	70	0.86	— 2.6	10	6,223	sw.	29	nw.	16	8	20	2	4.9	72.0	1892	64.2	1881
Harrisburg	377	6	29.61	30.01	.....	71.2	.....	95	23	81	47	8	61	28	61	74	3.25	.....	12	3,933	w.	43	sw.	18	10	13	7	4.0	72.5	1892	68.5	1889
Philadelphia	117	24	29.89	30.01	+ .01	72.8	+ 1.0	97	24	82	48	6	63	30	61	71	1.63	— 1.7	9	6,478	sw.	36	nw.	4	13	12	5	4.5	74.5	1892	67.1	1881
Atlantic City	53	21	29.97	30.02	+ .03	66.8	+ 0.2	90	*	73	47	8	61	26	60	83	2.91	— 0.3	13	7,891	sw.	28	ne.	13	10	10	4	4.5	69.5	1880	64.7	*
New Brunswick	.....	.....	.....	.....	.....	70.6	.....	98	23	82	43	8	59	33	.....	.....	2.23	.....	14	.....	w.	.....	.....	.....	3	23	4	.....	.....	.....	.....	.....
Baltimore	179	24	29.82	30.01	+ .01	73.0	+ 0.7	98	24	83	47	*	63	29	61	67	3.29	— 0.8	11	4,654	sw.	40	n.	12	17	11	2	3.4	76.1	1876	69.9	1886
Washington, D. C	112	24	29.91	30.03	+ .02	73.6	+ 2.1	98	24	84	46	6	63	32	61	68	1.24	— 3.0	5	3,896	sw.	30	ne.	12	19	9	2	3.1	77.5	1874	69.1	1878
Cape Henry	.....	21	.....	.....	.....	74.6	+ 2.1	96	24	84	53	1	66	29	.....	.....	2.20	— 1.5	9	.....	se.	.....	.....	.....	17	9	4	....	76.3	1874	70.1	1886
Lynchburg	685	24	29.33	30.03	+ .03	74.1	+ 0.2	97	23	87	50	1	62	36	60	63	1.23	— 2.4	7	2,736	sw.	25	n.	12	13	15	2	4.2	77.4	1874	70.5	1886
Norfolk	57	24	29.99	30.05	+ .03	75.0	+ 1.5	97	23	85	49	1	65	28	65	78	3.36	— 0.9	8	6,724	sw.	34	sw.	21	19	7	4	3.3	78.9	1876	71.3	1886
S. Atlantic States.						76.1	— 0.7										3.02	— 1.5												
Charlotte	773	16	29.26	30.06	+ .03	76.2	+ 0.4	96	29	88	46	1	64	31	59	64	3.68	— 1.1	11	4,267	sw.	33	ne.	30	16	10	4	3.7	80.2	1890	70.7	1884
Hatteras	11	14	30.09	30.10	+ .07	74.3	+ 0.8	84	13	79	58	7	70	14	68	81	1.35	— 3.7	6	9,268	sw.	39	n.	1	15	12	3	3.9	77.2	1890	72.4	*
Kittyhawk	9	20	30.05	30.06	+ .05	74.4	+ 0.8	91	24	82	52	1	67	28	67	81	2.80	— 2.0	11	10,717	sw.	45	sw.	26	18	3	9	4.0	78.7	1890	69.7	1878
Raleigh	358	8	29.56	30.07	+ .04	75.8	+ 1.0	97	29	88	46	1	64	32	62	69	1.75	— 3.7	7	3,946	s.	32	n.	6	16	10	4	3.7	78.6	1890	73.6	1889
Southport	34	19	30.07	30.10	+ .07	73.4	— 2.8	84	12	79	54	1	68	20	68	79	3.84	0.0	10	8,557	sw.	36	sw.	6	16	9	5	3.7	79.4	1890	73.4	1894
Wilmington	78	24	30.02	30.10	+ .07	75.4	— 1.1	94	13	84	53	1	67	27	68	85	3.00	— 3.0	11	5,987	sw.	32	ne.	13	15	7	8	4.0	80.1	1890	72.8	1878
Charleston	52	24	30.06	30.11	+ .07	76.7	— 2.1	93	13	83	59	1	70	22	67	75	3.36	— 1.9	8	5,749	sw.	27	ne.	14	7	20	3	4.7	82.2	1890	75.6	1884
Columbia	.....	8	.....	.....	.....	78.4	+ 0.3	100	13	90	51	1	66	35	.....	.....	2.89	— 1.2	10	.....	s.	.....	.....	.....	13	15	2	....	81.4	1890	76.8	1889
Augusta	209	23	29.89	30.11	+ .07	77.4	— 1.4	97	13	89	53	2	66	33	63	68	9.12	+ 4.9	12	3,346	se.	46	n.	29	16	8	6	3.6	83.2	1890	74.2	1884
Savannah	98	24	30.00	30.11	+ .07	77.4	— 1.4	90	*	87	59	1	68	28	67	77	2.97	— 4.0	11	5,136	s.	40	nw.	18	8	20	2	4.4	82.7	1881	75.6	1884
Jacksonville	43	23	30.06	30.10	+ .06	78.0	— 2.0	92	5	87	62	4	69	27	67	75	4.93	— 0.7	12	5,072	se.	32	se.	4	5	17	8	5.9	82.5	1881	76.9	1884
Florida Peninsula.						78.4	— 2.2										5.28	— 0.8												
Jupiter	28	7	30.06	30.09	.....	77.7	— 2.1	88	2	83	66	14	72	18	72	84	4.22	— 1.3	7	5,955	se.	25	se.	22	10	16	4	5.1	80.4	1890	77.4	1892
Key West	22	24	30.06	30.08	+ .04	80.1	— 2.7	87	27	84	69	13	76	15	72	77	3.27	— 0.8	11	6,133	e.	32	ne.	8	4	13	13	6.7	84.7	*	79.3	1887
Tampa	36	15	30.05	30.09	.....	79.2	— 1.0	93	26	89	65	14	70	27	70	83	9.15	+ 2.2	19	3,949	e.	30	s.	29	5	22	3	5.4	82.5	1881	78.2	1884
Titusville	44	8	30.07	30.11	.....	76.5	— 3.2	89	14	84	61	14	70	28	71	82	4.49	— 3.4	12	7,574	e.	48	sw.	3	8	15	7	5.4	79.5	1890	76.5	1894
Eastern Gulf States.						77.9	— 1.1										2.09	— 3.4												
Atlanta	1,131	16	28.92	30.08	+ .03	76.4	+ 0.7	96	29	87	46	1	66	31	61	65	1.29	— 3.2	6	5,369	sw.	35	sw.	25	15	9	6	4.3	78.8	1890	70.8	1884
Pensacola	56	15	30.01	30.07	+ .04	78.5	— 1.0	101	30	85	60	2	72	21	68	73	0.87	— 5.3	7	6,431	sw.	29	sw.	6	10	13	7	5.3	82.1	1881	76.6	1884
Mobile	57	24	30.02	30.08	+ .06	78.0	— 1.5	101	30	86	54	2	70	28	68	74	1.84	— 4.2	13	5,029	s.	24	s.	16	9	20	1	4.4	82.9	1881	77.4	1889
Montgomery	257	22	29.81	30.08	+ .05	79.0	— 0.5	100	29	91	52	1	67	35	62	61	2.45	— 2.4	7	3,690	sw.	24	nw.	6	14	11	5	4.5	81.9	1881	75.6	1884
Meridian	358	....	29.70	30.07	.....	75.0	.....	97	30	88	46	8	62	42	64	70	3.09	.....	7	3,082	sw.	31	se.	19	12	13	5	4.2	.....	.....	.....	.....
Vicksburg	254	23	29.78	30.04	+ .02	77.2	— 2.1	96	30	87	54	1	68	26	65	71	0.91	— 3.4	4	4,079	w.	32	e.	9	15	12	3	3.5	83.8	1881	76.4	1886
New Orleans	54	24	30.01	30.07	+ .07	78.2	— 2.0	97	30	86	63	1	71	20	68	73	5.19	— 1.6	14	4,084	ne.	28	s.	19	12	15	3	4.1	84.3	1881	77.3	1888
Port Eads	.....	8	.....	.....	.....	77.4	.....	86‡	4	82‡	68	22	74	13	.....	.....	3.43	.....	7	.....	e.	.....	.....	.....	2	19	9	....	83.1	1881	77.4	1894
Western Gulf States.						77.0	— 1.4										3.14	— 0.9												
Shreveport	249	23	29.78	30.04	+ .05	77.8	— 3.0	98	30	88	56	1	68	28	65	71	2.25	— 1.4	8	4,224	se.	32	se.	9	15	8	7	4.1	85.0	1881	76.8	1889
Fort Smith	492	13	29.52	30.02	+ .07	76.4	— 0.4	99	30	89	49	1	64	34	64	65	1.20	— 3.2	6	4,511	e.	38	nw.	5	16	12	2	3.1	78.3	*	73.6	1889
Little Rock	302	15	29.72	30.04	+ .06	77.6	+ 0.1	102	30	89	51	1	66	32	62	65	0.26	— 4.3	4	4,461	sw.	50	ne.	20	17	8	5	3.9	80.4	1881	73.6	1889
Corpus Christi	20	8	29.98	30.00	+ .02	79.4	— 1.2	87	*	84	64	2	75	20	74	83	1.23	— 1.6	7	10,376	se.	36	se.	10	0	26	4	5.8	80.7	1888	79.2	1890
Galveston	42	24	30.01	30.05	+ .06	78.6	— 3.1	87	30	82	64	2	75	14	71	79	9.89	+ 4.9	10	7,750	s.	28	e.	1	21	3	6	2.8	84.9	1881	78.6	1894
Palestine	511	13	29.51	30.05	+ .06	77.6	— 0.9	96	30	87	53	1	68	28	68	78	4.03	— 0.4	10	4,308	sw.	20	n.	5	12	11	7	4.7	79.9	1891	76.6	1889
San Antonio	679	16	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	84.5	1881	78.0	1888
Ohio Val. & Tenn.						75.0	+ 1.7										2.71	— 1.6												
Chattanooga	762	16	29.30	30.09	+ .05	75.7	+ 0.2	96	29	87	45	1	64	37	61	64	1.77	— 2.6	6	4,295	sw.	30	w.	16	7	19	4	5.1	78.9	1890	71.5	1884
Knoxville	980	24	29.05	30.07	+ .04	74.6	+ 1.1	94	23	86	43	1	63	32	61	66	1.43	— 2.9	4	3,250	sw.	24	ne.	30	18	6	6	3.6	77.5	1890	69.7	1878
Memphis	330	24	29.71	30.06	+ .07	78.4	+ 0.9	98	29	89	51	1	67	31	65	69	2.60	— 2.4	5	4,261	w.	34	se.	15	23	5	2	2.0	81.7	1871	74.3	1876
Nashville	553	24	29.47	30.05	+ .06	76.6	+ 1.3	98	29	88	42	1	65	33	62	67	3.55	— 0.7	9	3,377	sw.	27	ne.	29	17	10	3	3.4	83.4	1874	72.1	1889
Lexington	969	11	29.00	30.03	.....	74.6	+ 0.9	94	12	85	43	1	64	28	60	65	4.44	0.0	12	6,540	sw.	48	sw.	26	10	11	9	5.3	77.9	1874	69.2	1889
Louisville	525	23	29.48	30.03	+ .04	76.9	+ 2.9	96	30	88	46	1	65	34	61	63	3.63	— 0.8	9	4,354	s.	30	s.	26	12	13	5	4.4	80.6	1874	70.6	1889
Indianapolis	766	24	29.22	30.02	+ .03	74.6	+ 3.3	96	12	86	39	6	63	35	60	64	3.76	— 1.3	9	3,410	sw.	33	s.	17	11	15	4	4.4	76.7	*	67.8	1889
Cincinnati	628	23	29.37	30.03	+ .04	74.8	+ 2.3	94	23	85	46	1	64	28	60	62	4.17	— 0.4	12	4,057	se.	36	sw.	26	13	13	4	4.3	79.0	1874	69.6	*
Columbus	868	16	29.13	30.03	+ .05	72.4	+ 2.6	94	22	84	41	1	60	34	58	62	1.12	— 2.4	9	5,221	w.	48	w.	26	14	9	7	4.4	74.6	1890	67.6	1886
Pittsburg	820	24	29.16	30.02	+ .03	71.6	+ 1.1	95	23	83	42	7	60	34	61	71	0.61	— 3.0	11	3,706	nw.	33	nw.	26	14	15	1	4.0	74.6	1892	66.0	1878
Parkersburg	638	6	29.36	30.04	.....	72.3	.....	95	22	85	44	1	60	35	61	70	6.78	.....	14	2,972	se.	46	w.	26	13	14	3	4.1	75.2	1892	68.4	1889
Lower Lake Region.						68.8	+ 2.9										2.92	— 0.8												
Buffalo	690	24	29.25	29.98	+ .02	65.6	+ 2.3	89	24	72	42	6	60	21	57	75	3.45	0.0	12	6,965	sw.	36	sw.	2	10	14	6	4.8	68.0	1876	59.6	1881
Oswego	335	24	29.58	29.95	— .01	64.8	+ 2.0	89	24	72	42	8	58	25	57	77	3.70	+ 0.2	14	5,675	w.	28	w.	26	9	16	5	5.0	69.3	1876	58.2	1881
Rochester	523	23	29.43	29.99	+ .03	69.2	+ 4.1	95	24	78	40	*	59	30	59	74	3.43	+ 0.1	15	5,298	sw.	30	nw.	5	11	10	9	4.9	70.6	1893	61.0	1881
Erie	714	22	29.24	29.98	+ .02	68.0	+ 2.1	92	24	76	40	*	60	34	57	68	2.88	— 1.3	12	5,989	sw.	30	w.	26	12	10	8	4.8	70.8	1870	61.7	1881
Cleveland	740	24	29.23	30.00	+ .02	69.1	+ 2.8	90	24	78	38	6	60	32	57	66	2.31	— 1.7	8	6,780	se.	49	nw.	28	16	7	7	4.2	70.8	1892	64.3	1881
Sandusky	629	16	29.34	30.00	+ .02	71.1	+ 2.2	92	30	81	40	6	61	28	58	67	3.22	— 1.0	9	4,794	w.	42	n.	28	17	12	1	3.1	72.8	1890	65.8	1878
Toledo	674	24	29.29	29.99	+ .03	71.9	+ 3.4	94	23	83	41	6	61	31	59	66	1.76	— 1.8	7	5,750	w.	36	se.	28	14	12	4	4.2	73.7	1873	65.5	1889
Detroit	724	24	29.22	29.98	+ .02	70.6	+ 4.0	94	12	81	38	2	60	36	57	66	2.63	— 1.1	8	6,513	sw.	49	w.	24	14	15	1	3.9	71.6	1890	63.8	1889
Upper Lake Region.						66.7	+ 0.1										3.68	— 0.2												
Alpena	609	22	29.29	29.93	— .01	64.4	+ 5.4	90	15	74	34	6	55	32	56	79	7.19	+ 3.5	16	5,612	se.	37	nw.	28	8	15	7	5.3	64.6	1893	55.6	1889
Escanaba	.....	24	.....	.....	.....	64.2	+ 3.7	87	*	74	36	6	54	33	.....	.....	4.58	+ 0.4	13	.....	sw.	.....	.....	.....	15	6	9	....	66.4	1890	57.5	1889
Grand Haven	628	24	29.30	29.96	+ .01	66.8	+ 4.2	88	23	76	39	6	58	34	56	69	2.82	— 1.2	5	5,582	sw.	30	sw.	28	16	11	3	3.8	68.7	1873	59.0	1889
Marquette	734	24	29.15	29.92	— .02	63.4	+ 5.8	92	15	73	36	5	54	34	52	66	1.90	— 1.9	10	5,637	n.	38	s.	28	8	12	10	5.7	64.6	1893	55.1	1881
Port Huron	630	20	29.30	29.98	+ .02	68.0	+ 4.9	94	30	79	35	5	57	32	57	72	3.38	— 0.2	11	6,472	s.	44	n.	23	13	14	3	3.5	68.0	1894	57.9	1881
Sault Ste. Marie	642	6	29.24	29.93	.....	61.7	.....	90	15	74	34	5	49	40	52	74	2.53	.....	7	4,997	nw.	30	se.	28	5	16	9	6.3	62.2	1893	55.4	1889
Chicago	824	24	29.13	29.98	+ .03	71.4	+ 5.1	93	22	81	40	6	57	32	55	60	1.96	— 1.8	9	10,654	sw.	50	sw.	26	14	13	3	4.2	71.4	1894	62.3	1889
Milwaukee	673	24	29.20	29.97	+ .01	68.8	+ 6.1	93	15	79	38	6	58	35	60	75	3.44	— 0.5	7	6,240	sw.	32	sw.	15	10	16	4	4.5	68.8	1894	58.6	1889
Green Bay	617	8	29.34	29.96	+ .01	70.1	+ 5.6	94	14	81	38	5	59	38	56	64	5.32	+ 2.6	8	5,529	s.	31	n.	17	9	14	7	5.6	70.1	1894	60.4	1889
Duluth	656	24	29.20	29.90	— .02	62.7	+ 4.9	88	2	73	40	5	52	38	51	68	1.80	— 3.1	9	4,278	e.	25	e.	17	15	13	2	3.9	62.7	1894	53.8	*
North Dakota.						68.6	+ 5.4										4.28	+ 0.7												
Moorhead	935	14	28.87	29.85	— .02	69.2	+ 5.4	96	12	82	36	5	57	41	55	62	7.70	+ 3.6	10	8,796	s.	45	se.	27	10	19	1	4.4	69.3	1884	61.8	1883
Saint Vincent	804	14	28.99	29.83	— .06	68.3	+ 7.1	94	13	84	32	5	53	46	56	69	3.38	+ 0.2	7	6,675	se.	34	w.	30	20	5	5	3.0	68.8	1890	58.8	1885
Bismarck	1,681	20	28.09	29.82	— .04	68.2	+ 3.6	96	12	80	37	5	56	36	52	58	1.76	— 1.8	9	7,388	se.	39	nw.	30	22	4	4	3.3	69.4	1884	59.0	1877
Williston †‖	1,874	16	27.67	29.77	— .10	66.0	+ 1.5	88	7	78	40	5	54	36	48	54	4.68	+ 1.4	12	7,771	se.	52	nw.	22	9	7	14	5.8	69.5	1884	57.6	1891
Upper Miss. Valley.						74.9	+ 4.5										1.83	— 3.1												
Minneapolis	.....	.....	.....	.....	.....	73.1	.....	93	30	84	40	5	62	33	.....	.....	1.15	.....	8	.....	s.	.....	.....	.....	10	16	4	.....	.....	.....	.....	.....
Saint Paul	850	24	29.03	29.92	+ .02	72.2	+ 4.9	93	20	83	41	5	61	31	56	60	1.51	— 3.0	8	5,111	se.	34	sw.	28	18	9	3	3.5	73.0	1873	63.3	1875
La Crosse	720	22	29.20	29.95	+ .03	71.8	+ 4.2	92	14	83	41	6	60	34	58	64	2.31	— 2.2	8	4,456	s.	42	s.	21	12	14	4	4.2	73.7	1873	64.4	1889

TABLE I.—*Climatological data for Weather Bureau Stations, June,* 1894—Continued.

Districts and stations.	Elevation above sea-level, feet.	Length of record, years.	Pressure, in inches.			Temperature of the air, in degrees Fahrenheit.								Humidity and precipitation.					Wind.				Clear days.	Partly cloudy days.	Cloudy days.	Average cloudiness, tenths.	Mean temperature data since opening of station.			
			Mean pressure, 8 a. m. and 8 p. m. + 2.	Mean reduced.	Departure from normal.	Mean max. and min. + 2.	Departure from normal.	Maximum.	Date.	Mean maximum.	Minimum.	Date.	Mean minimum.	Greatest daily range.	Mean temperature of the dew-point.	Mean relative humidity, per cent.	Precipitation, in inches.	Departure from normal.	Days with .01, or more.	Total movement, miles.	Prevailing direction.	Maximum velocity. Miles per hour.	Maximum velocity. Direction.	Maximum velocity. Date.					Highest for month.	Year.	Lowest for month.	Year.
Up. Miss. Val.—Con.																															
Davenport	613	23	29.33	29.96	+ .01	75.0	+ 5.5	95	13	86	44	6	64	32	58	61	2.16	— 2.2	8	5,513	sw.	45	se.	21	14	13	3	4.1	77.7	1873	67.0	1889
Des Moines	869	10	29.04	29.95	+ .03	74.4	+ 4.1	99	30	87	43	6	62	36	55	55	1.67	— 4.2	11	5,295	sw.	41	sw.	23	18	9	3	3.2	74.4	1894	67.5	1883
Dubuque	.....	21	.....	.....	.....	73.4	+ 5.8	96	14	87	43	6	62	36	.....	.....	2.25	— 2.8	9	.....	s.	.....	.....	...	20	6	4	....	74.4	1894	66.2	1889
Keokuk	613	23	29.34	29.97	+ .03	75.8	+ 5.0	95	29	88	44	6	64	33	60	60	2.85	— 2.1	9	4,905	sw.	36	w.	16	21	8	1	2.6	77.8	1873	68.3	1889
Cairo	359	23	29.65	30.02	+ .05	76.7	+ 2.2	94	13	88	46	6	66	32	64	67	1.04	— 3.5	8	4,688	sw.	44	sw.	26	22	7	1	2.4	79.4	1890	70.8	1889
Springfield, Ill	644	15	29.34	30.00	+ .03	75.4	+ 4.4	97	15	87	40	6	63	35	58	59	1.56	— 3.8	8	5,278	s.	38	nw.	25	10	15	5	4.3	76.0	1890	67.7	1889
Hannibal	534	....	29.42	29.98	.....	75.3	.....	95	27	88	44	6	63	34	60	61	2.52	.....	8	5,768	sw.	48	w.	24	16	11	3	3.8	.....	.....	.....	.....
Saint Louis	571	24	29.41	30.00	+ .04	75.4	+ 4.1	99	27	89	44	6	68	29	61	58	1.12	— 3.9	6	7,129	s.	44	nw.	30	18	11	1	2.7	79.7	1871	70.6	1889
Missouri Valley.						73.0	+ 2.4										4.47	— 0.4													
Columbia	.....	...	.....	.....	.....	75.7	.....	97	21	90	43	6	62	41	.....	.....	3.04	.....	10	4,075	s.	25	n.	25	15	12	3	3.8	....	.....	.....	.....
Kansas City	963	6	28.99	29.98	+ .04	75.0	+ 1.5	95	30	86	50	6	64	29	61	66	8.16	+ 3.0	13	5,962	s.	33	sw.	25	18	8	4	3.3	77.0	1890	70.8	1889
Springfield, Mo	1,336	9	28.64	30.01	+ .04	73.6	+ 0.5	94	27	84	48	6	63	27	61	67	2.26	— 3.3	5	6,466	se.	32	nw.	18	13	15	2	3.7	75.6	1890	69.0	1889
Topeka	.....	8	.....	.....	.....	74.8	+ 2.1	96	30	86	48	6	63	33	.....	.....	7.05	+ 1.3	12	.....	s.	.....	.....	...	16	8	6	....	75.8	1890	69.2	1889
Omaha	1,123	24	28.78	29.94	+ .01	74.0	+ 2.7	97	30	85	47	6	63	34	56	60	4.74	— 1.1	12	5,816	se.	38	sw.	20	14	7	9	4.2	75.8	1871	66.7	1878
Valentine	2,613	9	27.19	29.84	— .04	70.4	+ 3.4	95	12	84	44	6	57	37	50	56	2.35	— 0.9	10	9,209	s.	44	s.	19	7	19	4	5.3	70.4	1894	63.7	1891
Sioux City	1,165	....	28.70	29.89	.....	72.4	.....	100	30	85	41	6	60	42	55	60	2.74	.....	10	8,595	s.	75	s.	20	12	12	6	4.4	....	.....	.....	.....
Pierre	1,470	20	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	74.2	1873	63.6	1877
Huron	1,310	13	28.49	29.84	— .06	70.4	+ 4.1	98	12	86	31	5	55	50	52	56	2.23	— 1.4	10	11,517	se.	69	se.	19	13	10	7	4.3	70.4	1894	63.2	1892
Northern Slope.						63.2	+ 0.2										2.30	— 0.2													
Havre	2,477	12	27.24	29.78	— .08	62.0	— 0.3	88	6	74	40	15	51	38	45	58	2.83	— 0.2	12	6,756	sw.	36	nw.	30	8	14	8	5.5	65.4	1886	58.0	1891
Miles City †	2,374	17	27.33	29.75	.....	68.4	— 1.4	90	7	81	46	10	56	38	48	52	2.14	— 0.9	11	5,587	nw.	36	sw.	22	13	13	4	3.8	71.3	1886	61.6	1892
Helena	4,108	15	25.78	29.91	+ .01	59.0	— 1.8	88	3	69	39	14	49	29	41	58	2.09	— 0.1	19	5,708	sw.	35	sw.	17	9	14	7	5.5	63.4	1889	56.8	*
Rapid City	3,280	10	26.53	29.80	— .08	66.8	+ 3.5	90	29	78	42	9	55	38	49	55	4.17	+ 0.3	15	7,437	s.	46	s.	19	6	18	6	5.5	68.0	1893	58.1	1883
Cheyenne	6,105	24	23.99	29.82	— .04	61.4	+ 0.1	86	30	75	40	16	48	39	47	62	0.64	— 0.8	6	8,552	nw.	48	nw.	9	6	19	5	5.3	65.7	*	57.5	1883
Lander ‡	5,377	11	24.58	29.85	.....	60.0	— 1.8	85	4	75	32	9	45	40	34	46	0.51	— 0.6	8	4,443	sw.	36	s.	19	5	22	3	5.6	68.9	1887	56.4	1891
North Platte	2,841	20	27.02	29.88	— .02	70.2	+ 1.6	100	30	84	42	6	57	39	53	61	3.54	+ 0.3	14	8,634	s.	46	nw.	24	9	20	1	4.3	70.9	1881	64.3	1891
Middle Slope.						62.6	— 0.4										4.91	+ 2.5													
Colorado Springs	6,098	13	24.02	29.91	.....	61.8	— 2.5	90	30	75	42	10	48	39	35	46	3.95	+ 2.9	9	7,417	n.	49	sw.	4	13	12	5	3.9	68.9	1874	61.8	*
Denver	5,287	23	24.72	29.85	+ .01	66.0	— 0.6	94	30	80	45	1	52	41	35	40	0.39	— 1.0	7	5,946	s.	38	nw.	27	18	11	1	3.4	71.2	1881	63.2	1878
Pikes Peak	.....	17	17.88	.....	.....	29.2	.....	44	30	34	7	9	24	17	17	62	0.51	.....	9	19,241	sw.	90	w.	20	13	9	8	4.6	39.9	1881	28.1	1877
Pueblo	4,734	6	25.22	29.85	.....	68.6	.....	97	30	84	47	8	54	43	33	40	1.06	.....	6	6,805	nw.	46	w.	8	15	14	1	3.4	71.2	1893	66.5	1891
Concordia	1,410	10	28.48	29.92	+ .01	73.2	+ 0.9	97	27	85	44	6	61	39	59	66	12.49	+ 8.6	10	5,295	s.	36	w.	20	20	7	3	3.2	75.6	1890	69.9	1886
Dodge City	2,523	20	27.35	29.89	+ .01	73.4	+ 0.8	102	30	87	45	1	60	37	55	57	2.80	— 0.4	6	10,882	se.	46	s.	8	15	15	0	3.7	76.9	1881	69.6	1891
Wichita	1,366	6	28.53	29.94	.....	75.2	.....	101	27	88	46	1	63	36	59	64	9.43	.....	10	6,316	s.	33	sw.	29	17	7	6	3.7	77.2	1890	70.3	1889
Oklahoma City	1,239	....	28.71	29.98	.....	75.4	.....	98	30	86	48	2	65	33	62	67	3.71	.....	6	7,275	s.	28	s.	8	25	2	3	2.0	....	.....	.....	.....
Southern Slope.						.....	.....										.....	.....													
Abilene	1,749	9	28.18	29.95	+ .03	77.6	— 0.5	101	26	87	55	2	68	25	62	63	3.30	+ 0.6	8	8,495	sw.	42	nw.	17	14	12	4	4.1	80.6	1893	74.9	1889
Amarillo	3,691	....	26.25	29.91	.....	72.2	.....	99	26	81	51	1	63	34	51	58	3.89	.....	11	13,821	s.	60	w.	16	6	10	14	6.4	....	.....	.....	.....
Southern Plateau.						74.9	— 3.6										0.20	— 0.2													
El Paso	3,796	17	26.14	29.84	— .02	79.3	— 2.6	100	29	94	56	1	65	39	20	19	0.01	— 0.5	1	6,547	w.	32	nw.	28	25	4	1	1.6	83.0	1888	78.3	1885
Santa Fe	7,051	21	23.30	29.89	.00	64.0	— 1.3	86	30	76	43	1	52	33	14	26	0.77	— 0.2	5	6,451	sw.	38	sw.	15	27	3	0	1.9	68.6	1881	61.6	1885
Tucson	2,390	10	27.42	29.82	.....	77.0	— 5.3	104	30	96	48	7	58	44	26	18	T.	— 0.3	0	5,280	se.	37	sw.	18	27	3	0	0.8	86.7	1876	77.0	1894
Yuma	141	19	29.65	29.79	+ .01	79.4	— 5.4	108	30	96	55	6	63	38	49	42	0.00	0.0	0	5,158	w.	34	w.	6	27	3	0	0.7	89.3	1876	79.4	1894
Middle Plateau.						59.2	— 4.4										1.58	+ 1.0													
Carson City	4,720	7	25.24	29.95	.....	56.0	— 4.1	82	30	69	27	12	43	38	31	43	1.22	+ 0.9	5	.....	.....	.....	.....	.....	21	3	6	3.4	66.6	1889	56.0	1894
Winnemucca	4,340	15	25.60	29.92	+ .04	57.8	— 5.0	84	2	70	31	12	46	36	31	47	2.15	+ 1.4	10	6,828	sw.	56	s.	3	8	8	14	6.2	68.6	1889	57.8	1894
Salt Lake City	4,345	21	25.60	29.91	+ .03	63.9	— 4.2	89	2	75	40	9	53	32	35	40	1.38	+ 0.6	6	4,836	se.	30	nw.	26	11	16	3	4.2	70.5	1883	62.0	1891
Northern Plateau.						62.2	— 2.5										0.98	— 0.6													
Baker City	3,430	5	26.40	29.88	.....	57.0	.....	83	2	68	31	11	46	36	41	59	1.74	.....	10	3,389	nw.	36	sw.	3	7	8	15	6.1	58.6	1892	55.2	1893
Idaho Falls	4,742	5	25.16	29.88	.....	58.2	.....	86	*	72	34	*	44	42	39	58	2.27	.....	14	6,295	s.	30	sw.	25	4	15	11	5.9	61.2	1881	58.2	1894
Spokane	1,930	14	27.91	29.92	.00	60.6	— 2.5	89	2	71	35	11	50	32	41	57	1.13	— 0.8	13	5,474	sw.	39	sw.	3	0	16	14	7.1	65.7	1884	57.6	1893
Walla Walla	1,018	9	28.88	29.95	+ .02	63.9	— 2.5	93	2	75	41	10	53	33	46	56	0.83	— 0.5	12	5,367	s.	32	ne.	2	8	17	5	4.9	70.5	1889	62.0	1893
N. Pac. Coast Region.						56.6	— 1.2										3.01	+ 0.4													
East Clallam	.....	....	.....	.....	.....	55.1	.....	86	2	63	41	1	47	44	.....	.....	3.81	.....	8	.....	w.	.....	.....	.....	11	2	17	....	.....	.....	.....	.....
Fort Canby	179	11	29.83	30.03	+ .03	54.5	— 1.3	69	15	59	44	10	50	17	49	87	3.22	+ 0.4	18	6,901	w.	68	se.	8	2	7	21	8.1	57.7	1888	53.6	1893
Neah Bay	.....	10	.....	.....	.....	56.4	0.0	71	16	65	40	10	48	25	.....	.....	4.48	— 0.5	9	.....	sw.	.....	.....	...	7	6	17	....	57.7	1893	54.8	1893
Olympia	.....	17	.....	.....	.....	60.1	+ 0.6	91	2	73	40	10	48	46	.....	.....	2.40	+ 0.9	10	.....	nw.	.....	.....	...	6	10	14	....	61.1	1885	54.8	1893
Port Angeles	29	10	29.97	30.00	— .01	54.2	+ 0.2	79	16	60	42	*	48	29	48	80	1.88	+ 0.5	10	4,257	w.	24	w.	7	10	12	8	4.9	55.4	1888	52.2	1887
Port Crescent	.....	....	.....	.....	.....	53.6	.....	77	16	63	37	3	44	36	.....	.....	2.41	.....	11	.....	w.	.....	.....	...	13	12	5	.....	.....	.....	.....	.....
Pysht	.....	....	.....	.....	.....	55.4	.....	76	2	66	39	10	45	34	.....	.....	3.05	.....	13	.....	w.	.....	.....	...	14	3	13	.....	.....	.....	.....	.....
Seattle	119	....	29.85	29.98	.....	58.7	.....	82	2	66	44	10	51	28	49	74	2.47	.....	14	4,243	se.	30	sw.	2	6	17	7	6.0	....	.....	.....	.....
Tatoosh Island	86	11	29.92	30.02	+ .02	53.0	— 0.9	68	16	57	45	9	50	15	49	88	3.28	— 0.3	18	7,139	sw.	56	sw.	9	3	7	20	7.6	55.1	1888	47.4	1890
Astoria	.....	10	.....	.....	.....	56.8	— 1.2	78	16	63	43	10	51	26	.....	.....	3.78	+ 0.8	19	.....	w.	.....	.....	...	5	3	22	....	60.4	1889	55.4	1893
Portland	157	23	29.86	30.04	— .01	58.8	— 4.5	90	2	66	43	10	51	31	49	75	2.16	+ 0.3	16	5,797	nw.	52	s.	2	5	8	17	6.9	66.0	1889	57.6	1893
Roseburg	523	17	29.44	30.00	— .06	59.2	— 2.8	80	2	68	42	10	50	29	48	73	2.85	+ 1.5	11	2,749	nw.	22	sw.	9	3	9	18	7.6	65.0	1889	58.1	1893
Mid. Pac. Coast Reg.						61.0	— 3.6										0.92	+ 0.2													
Eureka	64	8	30.00	30.06	+ .04	54.4	— 0.6	65	3	59	42	11	50	16	52	95	1.67	— 0.2	10	5,611	nw.	27	n.	18	5	16	9	5.8	58.8	1888	52.7	1887
Red Bluff	342	17	29.58	29.94	+ .04	69.1	— 5.2	101	30	82	46	11	57	38	49	56	1.00	+ 0.5	7	5,008	se.	30	nw.	9	22	8	0	2.3	81.0	1878	69.1	1894
Sacramento	71	17	29.87	29.95	+ .04	64.8	— 4.2	96	30	76	50	26	53	35	51	67	0.46	+ 0.3	3	7,101	sw.	28	sw.	16	16	8	6	3.4	72.6	1883	64.8	1894
San Francisco	153	24	29.85	30.01	+ .05	55.9	— 3.9	69	30	61	47	14	50	17	49	83	0.56	+ 0.3	5	10,218	sw.	36	sw.	10	13	7	10	4.4	61.7	1877	55.9	1894
Point Reyes Light	.....	....	.....	.....	.....	52.2	.....	64	*	58	41	*	47	18	.....	.....	1.16	.....	4	.....	nw.	.....	.....	...	10	4	16	....	.....	.....	.....	.....
S. Pac. Coast Region.						62.0	— 4.0										T.	0.0													
Fresno †	338	7	29.56	29.92	+ .06	68.9	— 6.4	100	30	82	47	11	55	37	48	52	1.16	+ 1.1	4	5,903	nw.	26	nw.	18	21	3	6	3.1	79.5	1889	68.9	1894
Los Angeles	330	17	29.61	29.96	+ .02	62.7	— 4.4	83	13	74	46	13	52	37	50	74	T.	— 0.1	0	3,143	w.	18	w.	5	10	20	0	3.6	71.4	1883	62.7	1894
San Diego	93	23	29.88	29.98	+ .03	61.4	— 3.6	73	13	67	50	13	56	23	53	76	0.01	0.0	1	4,002	w.	16	sw.	10	23	5	2	2.6	66.6	1883	61.4	1894

NOTE.—The data at stations having no departures are not used in computing the district averages. Letters of the alphabet denote number of days missing from the record.
*Two or more directions, dates, or years. †Received too late to be considered in departures, etc. ‡Normals of temperature and precipitation and extremes of temperature combined with Fort Washakie records. ‖All temperature and precipitation normals and extremes of temperature are obtained from Fort Buford records.

TABLE II.—*Meteorological record of voluntary and other co-operating observers, June, 1894.*

Stations.	Temperature. (Fahrenheit.) Max.	Min.	Mean	Precip'n.
Alabama.	°	°	°	*Ins.*
Aleo	100	50	77.2	.....
Ashville *§	98	58	82.6	.....
Bermuda *†§	98	49	76.0	2.07
Birmingham †	93[d]	.....	.....	2.80
Brewton †	100	50	75.8	2.65
Carrollton *†[1]	90	51	77.2	2.12
Citronelle †	97	58	78.7	1.44
Clanton †	97	46	74.6	2.65
Collirene	98	51	79.6	2.72
Cordova †	.....	.....	.....	2.80
Daphne †	99	53	79.2	4.50
Decatur *b	98	40	76.2	1.53
Elba *†[1]	92	58	76.0	5.32
Eufaula a †	98	53	79.6	2.23
Eufaula c †	.....	.....	.....	2.43
Evergreen	97	50	76.8	1.62
Florence a †	.....	.....	.....	1.60
Florence b †	99	42	75.7	1.01
Fort Deposit †	98	53	78.7	3.32
Gadsden †	96	48	76.4	6.28
Greensboro †	100	48	77.8	0.74
Healing Springs †	99	40	73.4	2.67
Highland Home †	95	56	78.3	1.82
Livingston †	100	48	78.4	0.96
Madison Station †	99	40	77.2	2.25
Maple Grove †	98	42	76.8	3.41
Marion †	99	48	78.0	2.87
Mount Willing †	100	52	78.4	1.72
Newbern †	99	50	78.4	0.99
Newburg †	101	40	76.8	2.37
Newton †	98	57	78.5	4.82
Opelika †	98	50	79.4	0.18
Oxanna *†	96	44	76.7	0.88
Pine Apple †	102	54	80.2	2.74
Pushmataha †	102	55	79.6	1.47
Rock Mills †	98	46	76.2	0.81
Scottsboro †	100	41	75.8	1.50
Selma †	.....	.....	.....	0.95
Starlington *†[1]	100	56	77.1	4.20
Sturdevant †	.....	.....	.....	0.69
Talladega b †	98	47	77.5	1.42
Tallassee Falls †	.....	.....	.....	0.95
Thomasville	100	52	78.2	1.19
Tuscaloosa †	100	48	78.4	1.16
Union †	.....	.....	.....	1.55[d]
Union Springs a †	100	54	80.4	1.63
Uniontown	99	52	79.5	1.03
Valley Head †	93	39	73.1	4.39
Wetumpka	.....	.....	.....	2.46
Wilsonville †	.....	.....	.....	2.08
Alaska.				
Killisnoo †	60	39	49.4	3.15
Metlakahtla †	75	34	53.1	2.53
Arizona.				
Antelope Valley †	.....	.....	.....	0.00
Ariz. Canal Co. Dam	112	57	81.2	0.00
Benson a *§	104	60	76.1	0.10
Benson b †	110	46	77.1	0.10
Bisbee *†	95	58	74.6	0.00
Buckeye †	108	48	76.7	0.00
Calabasas †	100	40	72.2	0.00
Casa Grande *§	109	67	86.2	0.00
Dragoon Summit *§	99	60	80.4	0.00
Dudleyville †	105	52	78.0	T.
Eagle Pass *§	.....	46	69.1	T.
Farleys Camp §	.....	.....	77.6	0.00
Flagstaff †	82	30	58.0	0.00
Fort Apache	97	36	65.1	0.00
Fort Bowie †	95	51	76.2	T.
Fort Grant	99	37	69.3	0.00
Fort Huachuca	98	41	71.8	T.
Gila Bend *§	111	66	84.7	0.00
Globe †	105	50	77.6	0.00
Holbrook †	96	35	65.7	0.13
Keams Canyon †	92	31	61.8	0.00
Maricopa *§	112	70	86.7	0.00
Mount Huachuca †	100	44	74.2	T.
Natural Bridge †	.....	.....	.....	0.00
Navajo *§	.....	44	59.4	.....
Oracle †	98	48	75.1	0.01
Palomas †	108	45	75.4	0.00
Pantano *§	98	70	81.4	0.00
Parker	112	47	79.6	0.00
Peoria †	108	.....	.....	0.00
Phœnix b †	106	51	78.6	0.00
Red Rock *†§	110	68	90.2	0.00
Reymert †	107	51	76.8	0.00
Rye †	105	39	71.5	T.
St. Helena R'h †	97	46	75.0	T.
San Carlos	111	46	75.8	0.00
San Simon *§	105	68	83.2	0.00
Show Low	.....	.....	.....	0.00
Signal †	110	50	78.2	0.00
Texas Hill *§	117	70	87.3	0.00
Tucson a †	107	51	79.5	0.00
Tucson b *§	100	74	88.4	0.00
Walnut Ranch *†[1]	92	58	71.6	0.08
Whipple Barracks	95	34	61.6	T.
Wilgus †	.....	.....	.....	0.05
Willcox *§	102	40	73.2	0.00
Yuma *§	103	75	84.7	0.00
Arkansas.				
Arkadelphia †	.....	.....	.....	2.70
Arkansas—Cont'd.				
Arkansas City †	.....	.....	.....	0.12
Bee Branch †f	103	45	74.2	0.15
Blanchard Springs †	100	48	76.3	1.31
Brinkley †	104	46	77.0	1.75
Camden a †	.....	.....	.....	1.16
Camden b †	101	48	77.5	0.55
Cassville †	94	45	71.4	1.98
Clarksville	.....	.....	.....	0.73
Conway *[1]	97	51	76.2	0.60
Corning †	101	44	77.2	1.40
Dallas †	100	48	76.9	2.08
Dardanelle †	.....	.....	.....	0.63
Fayetteville †	97	43	74.2	3.63
Forrest †	100	48	77.6	1.13
Fulton †	.....	.....	.....	0.81
Gaines Landing †	.....	.....	.....	1.00
Hamburg	98	46	75.8	3.93
Helena a †	.....	.....	.....	1.13
Helena b †	104	46	78.3	1.62
Hot Springs a	106	45	76.7	1.25
Hot Springs b	.....	.....	.....	0.88
Hot Springs (near)	.....	.....	.....	0.81
Keesees Ferry †	102	42	74.7	2.06
Kirby †	99	.....	.....	2.85
Lonoke *[1]	102	50	80.0	0.06
Madding §	.....	.....	82.0	1.56
Malvern †	100	45	75.2	1.62
Mount Ida †	99	43	73.3	1.16
Mount Nebo †	94	48	74.4	T.
New Gascony *[1]	97[e]	60[d]	78.4[f]	0.97
Newport a †	.....	.....	.....	3.52
Newport b †	101	47	77.7	3.44
Newport c †	98	46	75.4	2.62
Osceola †	96	45	76.4	0.43
Ozark †	103	51	79.0	1.53
Pine Bluff †	104	50	78.2	1.10
Pocahontas †	99	44	76.2	1.06
Prescott †	104	50	79.0	0.68
Rison †	100	46	77.2	2.64
Rogers †	96	46	74.1	2.06
Russellville †	102	48	77.3	0.37
Searcy †	101	46	76.2	0.62
Stuttgart †	101	44	76.8	1.47
Texarkana †	102	54	78.2	1.36
Washington †	97	52	76.6	0.51
Winslow †	90	49	72.5	2.38
California.				
Adin	83	29	55.6	1.26
Ager	92	38	64.1	1.02
Agnew	78	40	60.9	0.37
Anaheim *§	86	54	66.9	0.00
Antioch *§	95	56	68.8	0.84
Aptos *§	82	50	61.9	0.24
Arlington Heights	92	46	65.3	0.00
Athlone *§	101	50	73.7	0.72
Auburn *§	95	53	66.2	1.38
Bakersfield a *§	95	53	76.4	0.17
Beaumont *§	90	50	67.1	0.00
Belmont *§	78	45	60.8	.....
Berendo *§	102	55	75.0	0.80
Berkeley	76	47	59.4	1.11
Bethany *[1]	100	52	63.8	0.07
Bishop Creek *§	92	52	73.6	0.35
Boca *§	90	25	54.5	T.
Borden *§	100	55	72.6	0.55
Boulder Creek *§	88	49	63.3	0.39
Brentwood *§	96	58	69.2	1.10
Brighton *§	105	52	65.2	0.34
Byron *§	92	53	66.2	1.00
Caliente *§	102	50	75.5	0.70
Calistoga *§	93	51	66.2	1.29
Campo Seco	.....	.....	.....	1.26
Capitola *§	80	52	63.2	.....
Castroville *§	72	50	59.7	0.20
Cedarville †	81	28	56.0	1.07
Centerville *[1]	96	55	63.3	0.43
Chico *§	102	48	63.2	0.97
Chino *§	86	54	65.5	0.00
Cisco *§	77	28	48.3	.....
Claremont †	87	41	63.0	0.00
Colton *§	94	53	70.4	0.00
Colusa †	96	46	69.2	0.71
Crescent City	66	39	55.2	2.57
Crescent City L. H.	.....	.....	.....	2.94
Crofton *§	94	52	71.5	0.00
Davisville a *§	95	58	73.9	1.65
Davisville b §	94	51	67.2	1.97
Delano *§	95	56	72.2	0.55
Delta *§	98	52	72.6	2.25
Dinuba *§	93	55	70.8	1.20
Downey *§	84	58	67.1	0.00
Dry Creek *†[2]	.....	55	66.4	.....
Drytown	91	41	62.6	1.18
Dunnigan *§	96	54	70.8	0.36
Dunsmuir *§	88	44	65.4	2.10
East Brother L. H.	.....	.....	.....	0.24
Edgwood *§	87	40	61.2	0.72
Edmanton *[1]	82	28	51.0	2.26
Eldorado *§	97	54	67.3	1.00
Elmira *§	95	50	71.0	0.63
El Verano *§	92	53	64.4	1.15
Emigrant Gap *§	78	32	51.5	2.29
Esparto *§	103	50	68.1	0.97

Meteorological record of voluntary observers, &c.—Continued.

Stations.	Temperature. (Fahrenheit.) Max.	Min.	Mean	Precip'n.
California—Cont'd.	°	°	°	*Ins.*
Evergreen	.....	.....	.....	0.28
Exeter *§	98	53	71.3	1.32
Fall Brook *[1]	88	48	62.3	0.00
Farmington *§	100	52	70.6	0.68
Felton *§	92	40	65.4	0.74
Fernando *§	88	44	61.5	0.00
Florence *§	81	58	67.2	0.00
Florin *§	97	49	67.0	.....
Folsom City a *§	98	55	72.1	1.04
Folsom City b *[1]	101	58	70.0	0.99
Fort Ross	.....	.....	.....	1.86
Fremontville *[1]	87	51	62.3	0.00
Fresno *§	98	52	72.0	1.08
Fruto *§	98	55	71.5	0.95
Galt *§	98	56	69.8	0.63
Georgetown †	87	36	59.6	1.61
Gilroy *§	85	50	63.2	0.00
Girard *§	94	43	61.8	0.20
Glen Ellen *§	92	52	64.4	1.00
Goshen *§	100	36	71.6	1.03
Grass Valley a	.....	.....	.....	2.05
Greenville *†[1]	86	28	56.2	1.33
Haywards *§	80	54	62.6	0.34
Healdsburg *[1]	88	42	58.7	1.73
Hollister *§	85	50	64.4	0.09
Hornbrook *§	88	48	65.6	1.12
Humboldt L. H.	.....	.....	.....	1.48
Huron *§	95	50	69.9	0.38
Hydesville †	79	32	57.5	2.32
Independence †	95	38	67.0	0.11
Indio a *§	103	62	80.5	0.00
Ione *§	97	45	69.5	0.46
Iowa Hill *[1]	90	46	62.1	1.64
Jackson	84	36	57.9	1.48
Jolon	.....	.....	.....	0.52
Keeler *§	99	44	72.5	T.
Keene *§	94	48	64.2	0.20
Kennedy Gold Mine	92	40	61.9	1.89
King City *§	84	45	60.4	0.18
Kingsburg *§	98	53	74.4	1.05
Knights Landing *§	99	56	72.4	0.49
Kono Tayee	87	44	64.1	1.64
Lagrange *§	100	54	70.0	0.66
La Porte *†	80	29	50.7	3.49
Lathrop *§	97	56	68.6	0.57
Laurel *§	87	45	60.8	0.83
Lemoore a *§	100	54	72.6	0.26
Lemoore b	98	42	69.8	0.28
Lick Observatory †	79	31	52.6	0.64
Lime Point L. H.	.....	.....	.....	0.59
Livermore *§	92	45	62.0	0.52
Lodi	95	45	65.0	1.19
Long Beach *§	78	54	61.5	.....
Los Alamos	.....	.....	.....	0.00
Los Angeles *§	88	57	69.2	0.08
Los Banos *§	94	56	76.3	0.56
Los Gatos a *§	98	54	68.1	0.25
Los Gatos b	90	39	59.0	0.22
Mammoth Tank *§	105	68	86.1	0.00
Manzana *[1]	91	37	61.7	0.17
Mare Island L. H.	.....	.....	.....	0.45
Mariposa *[1]	90	48	63.0	2.78
Martinez *§	86	50	60.7	0.65
Marysville a *§	98	50	66.6	0.64
Mendota *§	98	63	77.3	0.49
Menlo Park *§	90	48	63.1	0.01
Merced *§	98	47	68.4	0.54
Mills College	.....	.....	.....	0.80
Milton *§	99	50	65.9	0.82
Milton (near) *[1]	101	50	66.7	1.46
Modesto *§	99	58	74.3	0.00
Mohave *§	95	48	69.8	0.00
Mokelumne Hill *§	.....	48	63.0	1.62
Monson *§	97	57	74.4	1.37
Monterey *§	88	50	59.3	0.00
Monterey (Hotel del Monte) *§	76	52	60.6	.....
Mount Glenwood *[1]	96	54	69.5	0.52
Napa a *§	97	50	68.6	0.25
Napa b	87	47	64.6	0.85
National City †	77	47	62.2	0.00
Needles †	108	61	83.4	0.00
Nevada City †	88	33	57.8	1.85
New Almaden *§	96	47	63.0	0.09
Newark *§	78	55	65.2	0.34
Newcastle a †	95	40	63.8	0.87
Newcastle b *§	90	45	65.0	1.76
Newhall *§	95	48	66.8	0.00
Newman *§	96	57	72.3	0.33
Niles *§	84	52	63.3	0.00
Norwalk *§	90	60	68.4	0.00
Oakdale a *[1]	97	51	67.3	0.97
Oakdale b *§	95	55	69.0	1.05
Oakland a	82	46	60.6	0.95
Oakland b *§	73	52	59.2	0.95
Ogilby *§	105	61	85.8	0.00
Oleta *[1]	88	47	59.9	1.06
Ontario a *§	92	55	69.6	0.00
Ontario b	93	43	66.0	0.00
Orangevale †	107	41	67.8	0.62
Orland *§	105	46	71.3	0.35
Oroville a *§	97	55	70.0	0.45
Pajaro *§	89	40	59.4	0.40
Palermo †	102	44	68.6	0.30

Stations.	Temperature. (Fahrenheit.) Max.	Min.	Mean	Precip'n.
California—Cont'd.	°	°	°	*Ins.*
Palm Springs *§	114	78	94.1	0.00
Paso Robles a *§	92	52	69.4	0.00
Paso Robles b	90	42	63.2	0.12
Petaluma *[1]	89	50	61.9	0.69
Piedras Blancas L.H.	.....	.....	.....	0.27
Pigeon Point L. H.	.....	.....	.....	0.63
Placerville a *§	95	42	62.0	1.39
Pleasanton a *§	98	55	65.9	0.30
Pleasanton b	92	33	61.2	0.41
Pt. Ano Nuevo L. H.	.....	.....	.....	1.00
Point Arena L. H.	.....	.....	.....	1.92
Point Bonita L. H.	.....	.....	.....	0.97
Pt. Conception L.H.	.....	.....	.....	0.33
Point Montara L. H.	.....	.....	.....	0.44
Point Pinos L. H.	.....	.....	.....	0.65
Point Reyes L. H.	.....	.....	.....	1.15
Pomona *§	90	50	67.6	0.00
Portersville *§	108	53	78.0	1.09
Port Los Angeles *§	70	54	60.7	0.00
Poway *§	.....	52	59.4	0.15
Puente *§	88	53	68.1	0.00
Ravenna *§	93	56	71.7	0.00
Redding a *§	100	58	71.9	0.65
Redding b †	98	43	67.6	0.95
Reedley (near) *[1]	96	52	74.3	1.45
Redlands a	.....	.....	.....	0.00
Redlands b *§	94	54	68.4	0.00
Represa	90	42	65.4	1.10
Rio Vista	96	47	66.4	0.98
Riverside	98	40	63.8	0.04
Rocklin *§	100	57	71.2	0.65
Roe Island L. H.	.....	.....	.....	0.36
Sacramento a	89	44	63.8	0.59
Sacramento b *§	93	50	66.0	0.40
Salinas *§	80	50	60.2	0.39
Salton *§	118	68	90.3	0.00
San Ardo a *§	100	45	63.1	0.15
San Bernardino †	95	40	65.8	0.00
San Gabriel *§	90	50	68.4	0.00
Sanger Junction *§	95	50	72.8	1.55
San Jacinto	99	40	64.7	0.00
San Jose a *§	88	50	62.1	0.40
San Jose b	89	35	59.6	0.30
San Luis Obispo L. H.	.....	.....	.....	0.40
San Mateo *§	81	52	62.7	0.00
San Miguel *§	96	50	69.1	0.00
San Pedro *§	81	60	66.9	0.00
San Rafael †	86	28	55.4	1.00
Santa Ana *§	88	60	75.1	0.00
Santa Barbara a	90	46	61.4	0.00
Santa Barbara b *§	80	51	60.6	0.00
Santa Clara a *§	86	44	60.0	0.38
Santa Clara b	94	39	62.8	0.32
Santa Cruz a *§	78	50	60.2	0.87
Santa Cruz b †	85	43	62.0	0.72
Santa Cruz L. H.	.....	.....	.....	0.62
Santa Margarita *§	82	50	65.0	0.00
Santa Maria	72[d]	42[d]	59.1[d]	0.16
Santa Monica *§	73	58	68.3	0.00
Santa Paula a *§	92	56	64.1	0.00
Santa Paula b	94	43	59.6	0.00
Santa Rosa *§	88	52	64.0	1.30
Selma *§	95	52	73.4	0.90
Shingle Springs *§	82	45	60.3	0.25
Sims *§	90	37	60.7	2.52
Sisson *§	87	40	59.9	2.25
Soledad *§	82	50	65.5	0.00
Sonoma *[4]	90	46	58.2	0.75
S. E. Farrallon L. H.	.....	.....	.....	0.50
South Vallejo *§	80	53	63.5	0.31
Spadra *§	90	58	70.7	0.00
Stanford Univer'y	85	42	61.6	0.07
Stockton a	95	47	64.4	0.70
Stockton b *§	94	58	75.3	0.82
Suisun City *§	98	55	64.3	0.77
Summit *§	72	28	47.2	.....
Susanville *†	85	33	59.9	0.75
Tehachapi a *§	89	43	60.8	0.27
Tehama *§	100	54	73.1	0.52
Templeton *§	90	51	63.0	0.14
Towles *§	84	38	59.6	2.15
Tracy *§	90	56	78.8	1.14
Traver *§	98	55	76.5	1.30
Trinidad L. H.	.....	.....	.....	2.55
Tropico *§	80	55	63.4	0.00
Tulare a *§	100	53	73.2	1.07
Tulare b	.....	.....	.....	1.15
Tulare c	106	44	70.9	1.18
Turlock a *§	99	57	75.3	0.90
Turlock b †	101	43	67.1	1.15
Ukiah †	93	36	61.4	1.27
Upper Lake	95	37	62.3	1.12
Upper Mattole *[1]	90	48	60.2	3.09
Vacaville a *[1]	98	55	66.2	0.84
Vacaville b *§	100	57	70.7	0.78
Valley Springs *§	98	55	73.2	1.28
Ventura †	80	42	59.1	0.00
Volcano Springs *§	111	73	89.7	0.00
Walnut Creek	98	42	62.3	0.42
Westley *§	96	54	71.4	0.85
West Butte *	92	48	.....	0.50
Wheatland	.....	45	66.5	0.85
Whittier *§	89	57	69.0	0.00
Williams *§	99	58	72.2	0.60
Willows a †	96	48	66.4	0.16

Meteorological record of voluntary observers, &c.—Continued.

Stations.	Temperature. (Fahrenheit.) Max.	Min.	Mean	Precip'n.
California—Cont'd.	°	°	°	*Ins.*
Willows *b* [3]	93	55	71.4	0.80
Wilmington [3]	80	60	69.4	0.00
Winchester	100	38	66.3	0.00
Winters [3]	95	54	74.0	0.00
Wire Bridge [3]	94	54	67.1	1.02
Woodland [3]	96	54	69.5	0.64
Yerba Buena L. H.				0.06
Yreka †	93	32	61.4	0.70
Yuba City [3]	92	58	74.2	0.70
Colorado.				
Abbott				1.39
Akron †	98	36	66.7	0.67
Alma †	70[g]	21	44.4[g]	0.46
Amherst †				1.82
Arboles				0.00
Avoca				0.88
Box Elder				0.41
Breckenridge †	73	23	46.0	1.01
Byers * [1]	96	40	60.0	
Canyon †	96	44	66.4	1.95
Castle Rock †	96	34	63.0	0.89
Cheyenne Wells * † [1]	105	49	69.0	0.66
Climax * † [1]	68	18	39.9	1.31
Como (near) †	73	23	48.4	0.83
Cope †	100	39	70.4	1.09
Deer Trail * [5]	94	48	71.4	0.75
Delta †	99	32	66.6	0.12
Divide Ex. Station	85	35	57.6	4.59
Downing †	94	36	66.3	0.30
Dumont	84	32	57.3	1.00
First View * [6]	100	54	70.6	0.85
Fleming				2.15
Garnet				0.34
Glen Eyrie †	86	40	61.4	1.29
Glenwood Sp'gs †	86	35	63.2	0.64
Gold Hill * [5]	76	37	57.8	1.17
Grand Junction †	94	37	70.4	0.07
Greeley				0.08
Gunnison †	81	23	51.6	0.68
Holly †				2.08
Hugo * [5]	104	50	72.6	0.62
Hugo (near) †	91	30	61.6	0.51
Husted †	96	40	61.8	2.20
Julesburg	103	36	69.4	3.43
Kit Carson * [1]	100	46	72.9	2.10
La Jara †	88	31	59.9	0.22
La Porte				0.52
Las Animas †	98	40	68.2	0.03
Lavender †	93	29	60.6	0.70
Lay * † [1]	87	34	65.2	0.79
Le Roy * † [1]	99	44	70.3	0.75
Leslie				0.88
Loveland				0.17
Manhattan				0.59
Meeker †	88	27	59.4	0.86
Minneapolis †	104	43	70.7	1.84
Monte Vista	85	28	56.8	0.30
Moraine †	76	30	52.4	0.38
Pagoda (near) †	84	27	56.2	1.12
Paonia				0.21
Parachute †	96	33	65.5	0.19
Red Cliff				0.67
Rico				0.00
River Bend * [6]		50	78.7	1.00
Rocky Ford †	101	40	69.6	0.70
Ruby †				0.92
Sagauche †	86[e]	28[e]	57.8[e]	0.50
San Juan †	83			0.32
San Luis †	88	26	58.0	0.74
Seibert †				2.31
Smoky Hill Mine †	85	34	57.0	1.74
Springfield †				1.20
Stamford * [1]	76	33	47.2	1.10
Steamboat Spr'gs †	85	27	57.1	0.10
Sunnyside	71	22	49.2	1.59
Surface Creek †	85	30	61.2	0.37
Thon †	99	34	64.5	1.60
T. S. Ranch †	88	34	63.5	0.38
Twin Lakes				T.
Vernon	101	38	70.8	3.23
Vilas				1.20
Wallet †				3.19
Ward District				2.28
Watkins * [1]	88	50	69.6	
Yuma				1.85
Connecticut.				
Bridgeport * [1]	94[d]	50	68.4	1.38
Canton	91	45	68.6	0.58
Colchester	90	42	67.0	0.49
Falls Village				0.86
Greenfield Hill				0.87
Hartford *b*				0.31
Hartford *c*	92	45	68.7	
Lake Konomoc				0.64
Lebanon				1.08
Middletown	93	42	68.1	0.39
New Hartford *a* * † [1]	87	45	66.8	1.77
N. Grosvenor Dale	93[k]	40[k]	65.8[k]	0.18
Norwalk	95	43	68.2	1.49
Southington * [1]	91	45	68.7	0.65
South Manchester				0.66
Storrs	90	41	66.0	0.59
Thompson * [1]	87	43	65.8	
Voluntown †	91	36	66.6	1.42
Wallingford †				0.65

Stations.	Temperature. (Fahrenheit.) Max.	Min.	Mean	Precip'n.
Connecticut—Cont'd.	°	°	°	*Ins.*
Waterbury	92	42	68.0	0.54
West Simsbury				0.59
Delaware.				
Dover	96	50	73.4	1.60
Millsboro	97	44	72.8	4.01
Newark	96	45	70.8	3.44
Seaford	98	46	72.6	1.16
Wilmington †	102	47	75.1	2.90
District of Columbia.				
Dist'ng Reserv'r * [5]	92	51	74.6	1.74
Rec'ing Reserv'r * [5]	92	51	73.9	1.75
West Washington	100	45	74.8	1.45
Florida.				
Amelia †	89	57	77.0	2.60
Archer †	96	60	78.7	6.81
Avon Park †	96	65	80.0	10.74
Brooksville †	91	64	77.1	8.70
Clermont †	96	65	79.4	5.90
Eustis †	95	64	79.8	6.19
Federal Point †	91	60	76.5	3.09
Fort Meade †	92	63	77.4	14.32
Gainesville		64		5.11
Grasmere †	92	63	77.8	4.40
Green Cove Sp'gs †	91	60	76.8	4.76
Homeland †	93	62	77.4	14.39
Kissimmee †	95	60	79.4	5.91
Lake City †	91	68	79.8	5.78
Manatee †	92	59	73.6	9.11
Merritts Island †	91	67	79.1	6.77
Moseley Hall †	95	63	80.1	6.54
Mullet Key †	90	72	80.8	3.17
Myers †	90	58	77.9	15.55
New Smyrna †	89	56	75.2	7.06
Oak Hill * [1]	90	71	80.4	
Ocala * † [1]	93	70	76.7	4.93
Orange City †	95	56	78.3	2.61
Orange Park	93	60	78.3	2.99
Orlando †	93	61	78.2	7.86
Plant City †	95	59	78.6	7.81
St. Francis B'ks	87	61	75.2	5.69
Tallahassee †	95	62	77.6	1.28
Tarpon Springs †	88	65	77.2	8.67
Georgia.				
Adairsville †	99	41	76.1	2.57
Alapaha †	102	53	80.3	2.18
Albany †	104	52	81.8	2.14
Americus †	101	52	81.1	3.56
Athens *a*	95	49	76.3	4.77
Athens *b* †	102	43	77.2	2.87
Bainbridge *a* †	101	53	80.8	4.77
Blakely * † [6]	99	59	79.6	2.03
Brag †	103	50	78.0	2.75
Camak †	100	53	78.4	2.63
Camilla	97	54	78.5	2.12
Canton †				2.64
Clayton †	93	42	71.0	2.31
Columbus †	97	53	78.2	3.65
Cordele	102	51	79.4	1.11
Covington	103	46	77.2	1.09
Dahlonega †	98	39	72.8	2.35
Darien †	95	53	78.3	1.99
Diamond †				3.33
Dublin *a* †	100	50	78.7	2.15
Eastman †	99	52	79.8	2.43
Elberton †	98	52	78.3	1.92
Fleming †	102	49	78.4	3.05
Forsyth * [1]	98	60	80.5	2.21
Fort Gaines	101	54	79.8	2.26
Gainesville	95	39	74.8	1.14
Gillsville * † [1]	97	57	75.7	1.25
Griffin †	94	47	77.4	1.79
Hawkinsville †	94	53	75.9	4.15
Hephzibah * † [3]	96	60	77.0	3.15
Lafayette †	94	45	73.8	1.86
Lagrange †	99	46	76.8	2.18
Leverett	100	44	76.2	6.09
Lumpkin	96	57	79.1	4.50
Macon *a*	98[e]	52[e]	79.0[e]	1.75
Macon *b* †				3.37
Marietta †	93	42	74.3	2.93
Marshallville †	96	58	79.5	1.17
Millen †	103	46	79.0	4.99
Monticello * † [1]	96	52	79.0	1.00
Morgan †	100	51	78.7	4.98
Newnan	98	46	78.5	1.40
Point Peter * [1]	98	44	77.9	2.65
Poulan †	101	49	78.3	2.38
Quitman	100	56	77.2[e]	2.03
Ramsey †	97	40	75.0	0.98
Resaca †				1.38
Reynolds †				4.28
Rome †	96	45	76.0	4.76
Talbotton †	96	52	77.0	2.69
Thomasville †	98	57	79.0	2.70
Toccoa †	98	48	76.0	2.21
Union Point	96	43	80.2	2.39
Washington †	100	51	78.0	2.30
Way Cross	93	55	78.2	4.55
Waynesboro	101	51	78.6	4.59
West Point †	99	49	79.0	1.21
Whitesburg †				0.91
Idaho.				
American Falls †	92	34	60.8	0.88
Atlanta †	76	26	51.0	1.65
Boise Barracks	91	32	61.7	0.19

Meteorological record of voluntary observers, &c.—Continued.

Stations.	Temperature. (Fahrenheit.) Max.	Min.	Mean	Precip'n.
Idaho—Cont'd.	°	°	°	*Ins.*
Egin †	86	32	57.4	2.73
Fort Lemhi	95	30	62.6	1.39
Fort Sherman † [1]	85	38	58.4	1.50
Fraser †	88	35	57.2	1.74
Garden Valley †	96	30	58.2	0.93
Grangeville	81	32	55.2	4.65
Hailey †	82	28	54.1	0.80
Idaho City †	89[d]	27[d]	57.4[d]	0.90
Kootenai †	80	36	58.1	2.13
Lake †	76	28	48.4	2.02
Lewiston †	95	38	64.8	1.35
Martin †	83	26	55.2	0.78
Moscow †	84	32	57.6	1.23
Murray †	93	35	56.6	2.79
Nampa	92	32	62.2	0.27
Oakley †	94	32	60.2	0.70
Paris †	85	29	56.6	0.64
Payette †	96	34	66.6	0.47
Salubria †	94	30	64.3	0.49
Illinois.				
Albion †	98	37	76.6	0.46
Atwood * [8]	96	32	69.1	1.68
Aurora †	98	34	72.5	1.87
Beardstown †				2.88
Bloomington †	103	31	73.2[e]	1.89
Braidwood †	92	39	73.0	2.84
Bushnell †	100	38	76.6	4.69
Carlinville †	99	38	75.8	1.42
Carlyle				1.44
Carrollton	96[e]	45[f]	77.5[f]	1.90
Chemung * † [1]	98	34	71.5	3.56
Chester †				1.87
Clear Creek †	100	33	73.2	4.91
Decatur †	100	32	75.1	2.23
Dixon †	98	34	72.9	1.91
East Peoria †	98	41	73.8	3.24
Evanston * [10]	96	42	70.6	
Fort Sheridan †	95	37	69.8	0.51
Galva †	100	34	73.6	4.14
Golconda †	96	45	76.8	1.77
Grafton †				1.94
Greenville †	101	36	77.4	1.51
Griggsville †	98	39	76.0	2.97
Halliday * [3]	100	50	77.8	1.43
Havana †	97	44	76.3	3.26
Herrins Prairie * [1]	94	50	79.3	2.10
Jordans Grove †	97	41	75.6	1.17
Kankakee †				1.11
Luella	102	38	76.6	1.12
Mascoutah * [8]	102	42	77.8	1.70
Mattoon * [1]	102	47	76.3	2.25
Monmouth †	98	33	74.5	2.04
Mount Carmel †				2.10
Mount Pulaski	96	37	74.6	1.91
Olney *a* * [1]	99	38	78.1	1.39
Olney *b* * [1]	109	42	76.8	2.02
Oregon	99	33	76.8	1.44
Oswego * [1]	97	32	70.7	2.20
Ottawa †	99	37	73.9	3.03
Palestine	97	40	74.7	2.68
Paris †	98[e]	33	74.5[e]	1.78
Peoria *a* †				3.63
Peoria *b*	98	45	77.1	4.18
Philo †	98	31	72.5	4.44
Rantoul * † [5]	99	40	75.6	2.37
Riley †	94	35	71.3	1.22
Rushville	103	40	78.0	4.21
St. John * [3]	98	53	77.0	3.40
South Chicago * [10]	94	40	70.6	
Streator †	98	45	75.4	2.53
Sycamore * † [1]	91	46	71.8	1.79
Tuscola * † [1]	98	39	76.4	1.12
Walnut †	100	37	75.6	3.00
Warsaw †				1.41
Winnebago †	93	32	71.3	2.03
Zion †	94	34	71.5	3.00
Indiana.				
Angola * [1]	102	40	74.2	1.78
Ashboro †	94	37	73.5	4.21
Bedford †	102	56	79.4	2.60
Butlerville	96	38	73.1	3.56
Cambridge City †	94	37	71.7	5.46
Columbia City * [1]	94	39	71.5	1.19
Columbus	94	38	76.3	2.76
Connersville †	92	39	71.4	3.38
Crawfordsville	100	37	74.7	1.79
Degonia Springs * [6]	92	44	75.8	1.83
Delphi	97	40	73.7	3.24
Evansville †				1.92
Farmland † [d]	92	38	70.8	1.39
Hammond †	98	42	72.2	0.69
Hawpatch	98	37	71.8	1.43
Huntingburg * † [1]	98	52	79.9	1.41
Huntington	95	41	72.8	1.04
Jasper †	94	41	75.8	1.28
Jeffersonville	94	45	75.1	4.07
Kokomo †	97	38	73.4	1.69
Lafayette †	96	33	72.7	3.54
Logansport *a* †				2.89
Logansport *b*	94	39	71.9	2.37
Madison †	94	43	75.2	3.07
Marengo * [1]	94	46	74.6	3.45
Marion †	96	35	72.0	1.41
Markle †	97	35	71.4	3.29
Mauzy	96	36	72.1	3.09

Stations.	Temperature. (Fahrenheit.) Max.	Min.	Mean	Precip'n.
Indiana—Cont'd.	°	°	°	*Ins.*
Mount Vernon *b* †	96	41	76.0	2.51
Muncie †	97[d]	44[d]	77.0[d]	0.90
New Albany * † [1]	92	46	76.4	3.17
Plymouth †	96	37	72.8	1.82
Princeton * † [1]	99	40	77.3	2.40
Rockville †	98	34	73.3	2.00
Rushville †				5.80
Scottsburg * [1]	92	40	75.4[d]	2.83
Seymour †	96	40	75.6	3.27
Shelbyville †	96	62	80.0	2.77
South Bend †	92	41	72.5	1.92
Terre Haute †	99	38	76.4	2.56
Valparaiso †	95	36	70.4	2.70
Vevay	95	49	76.6	3.90
Vincennes †	105	37	76.3	2.51
Worthington †	92	38	72.7	4.37
Indian Territory.				
Eufaula †				0.65
Gwenndale †	102	46	76.6	0.85
Healdton †	104	49	79.3	0.47
Lehigh	103	54	80.1	0.28
Purcell †	103	40	75.0	1.20
Tahlequah † [d]	104	46	76.6	1.96
Tulsa †				1.60
Iowa.				
Afton	99	42	74.8	2.15
Albia	100	39	75.6	1.33
Algona * [1]	94	45	72.5	1.80
Alta †	99	43	72.7	2.78
Amana †	97	39	73.5	1.73
Ames *b*	101	36	72.2	3.51
Ames *c*				3.37
Atlantic †	97	32	71.2	3.95
Audubon	96	37	72.2	2.88
Belle Plaine	97	40	73.0	2.56
Bonaparte †	98	37	75.0	1.82
Carroll †	101	35	72.4	1.51
Cedar Falls †	95	38	73.0	3.55
Cedar Rapids †	94	41	74.4	2.43
Charles City †	90	37	69.4	4.75
Clarinda †	95	44	73.5	4.02
Clinton	97	48	74.3	2.54
College Springs	98	41	72.6	3.25
Corning †	93	39	72.2	3.59
Cresco †	93	36	69.4	3.00
Decorah	100	36	70.8	2.64
Delaware * [3]	95	47	70.9	2.48
Elkader †	98	36	72.1	3.49
Emmetsburg	98	41	71.6	4.62
Fairfield [c]	98	36	74.7	2.14
Forest City	95	41	71.0	2.65
Fort Madison * † [1]	100	55	78.5	3.19
Galva †	100	37	70.1	2.43
Glenwood †	104	43	76.8	5.24
Grand Meadow * [1]	90	44	70.3	2.43
Greenfield †	97	39	74.5	2.94
Grundy Center	96	39	73.0	2.66
Hampton	95	39	71.5	2.78
Hawkeye				2.27
Hopeville †	95	42	73.6	2.30
Hopkinton * [5]	94	46	72.3	2.47
Humboldt †				2.09
Independence †	95	39	71.3	3.44
Indianola †	100	42	74.5	1.29
Iowa City †	95	46	74.0	2.40
Iowa Falls †	94	37	69.8	2.85
Jefferson † [g]	99	37	74.6	1.09
Keosauqua †	97	42	76.2	1.87
Knoxville	97	40	73.7	1.65
Larrabee †	98	39	72.9	2.65
Le Claire †				2.54
Logan †	102	40	75.6	3.75
Mason City †	93	34	69.4	4.77
Maxon * [1]	100	54	76.5	1.52
Mechanicsville	95	39	72.4	2.68
Monticello †	94	40	72.8	3.03
Mount Pleasant * [1]	92	52	77.3	1.64
Newton	99	42	74.1	1.12
North McGregor †				2.35
Osage * † [3]		48	69.5	2.35
Osceola	94	40[e]	74.2[e]	1.91
Oskaloosa	95	38	73.7	1.61
Ottumwa [1]	96	42[e]	76.0	2.78
Ovid †	99	39	74.7	1.39
Panama †	97	41	72.4	2.69
Richland * [1]	100	49	74.3	1.78
Rock Rapids	100	34	72.7	1.18
Rockwell City				2.02
Sac City †	96	46	72.8	6.20
Seymour †	99	40	75.6	2.26
Sibley	95	34	69.8	3.84
Spirit Lake †	103	40	73.1	1.49
Vinton * [1]	93	45	73.3	2.82
Washington †	97	40	73.8	0.57
Webster City * [1]	100	43	73.9	3.45
West Bend * † [1]	96	48	70.7	2.48
Williams * [1]	98	31	71.6	2.48
Winterset †	97	42	74.2	3.86
Kansas.				
Abilene †	100	46	73.4	5.15
Allison * † [2]	101	42	71.8	3.61
Altoona * † [3]	96	52	74.1	4.59
Atchison †	95	46	74.1	7.21
Beloit †	104	43	74.3	8.99
Burlington †	93	46	72.6	6.42

Meteorological record of voluntary observers, &c.—Continued.

Stations.	Temperature. (Fahrenheit.) Max.	Min.	Mean	Precip'n.
Kansas—Cont'd.	°	°	°	*Ins.*
Coffeyville *3	100	50	74.3	1.90
Colby †	101	36	71.0	3.19
Coldwater †	104	46	75.6	3.12
Collyer *2	101	54	72.4	6.30
Columbus †	97	44	75.2	6.69
Coolidge †	103	42	71.2	2.45
Cunningham †	104	40	75.8	4.78
Downs	.....	.....	.....	10.03
Eldorado †	100	35	76.2	6.59
Elk City *1	100	52	75.9	2.66
Emporia †	94	49	75.0	8.50
Englewood †	105	46	75.0	1.41
Eureka Ranch †	108	34	74.3	1.89
Fort Riley †	93	50	70.6	5.58
Garden City †	103	44	73.6	2.33
Garfield	.....	.....	.....	2.01
Gibson *1	102	36	70.6	1.51
Gove City *† 1	103	30	73.4	4.93
Grainfield *6	100	.....	78.2	2.40
Grenola *1	103	46	76.7	2.95
Grinnell *3	110	64	79.3	5.35
Halstead *	93	37	70.6	11.46
Hays City †	104	31	74.0	3.90
Horton †	95	47	74.1	5.94
Hutchinson †	100	42	74.9	8.87
Independence †	105	48	78.1	2.63
Ionia †	99	41	72.6	6.38
Jaqua †	102	37	70.2	3.87
Johnson †	108	46	74.0	2.02
Kiowa †	106	45	76.2	3.08
Lakin †	110	46	73.2	1.60
Lawrence 1	96	45	74.6	8.93
Lebo †	96	45	74.6	8.93
Leoti †	104	42	72.0	2.55
Liberal †	104	50	75.2	4.11
Macksville †	102	40	76.0	4.63
McPherson †	97	46	74.6	6.43
Manhattan b	99	44	74.0	5.05
Manhattan c *	102	48	.....	5.00
Marion †	98	40	73.0	6.29
Marmaton	96	46	75.6	7.15
Medicine Lodge	.....	.....	.....	2.53
Minneapolis †	101	43	74.6	4.49
Monument *1	103	54	73.2	3.50
Morland †	103	34	71.0	2.61
Morton †	105	45	73.8	3.35
Mount Hope *1	99	57	76.8	14.98
Ness City †	105	36	78.4	1.31
New Eng. Ranch †	103	35	72.6	2.22
Oberlin †	.....	.....	.....	4.37
Olathe †	94	42	74.1	6.12
Oswego †	102	41	74.7	3.61
Phillipsburg †	100	42	73.0	3.25
Pleasant Dale †	103	36	73.3	6.91
Quinter *3	104	60	76.8	4.06
Rome * † 1	102	43	75.5	3.08
Salina †	100	40	75.9	3.97
Sedan †	101	51	76.0	4.48
Sharon Springs *1	110	56	72.3	2.75
Topeka	93	46	74.1	7.82
Tribune †	103e	43e	71.2e	2.61
Ulysses	106f	47f	75.6f	1.78
Wa Keeney *1	100	56	74.3	3.00
Wakefield *1	102	52	75.8	5.45
Wallace b	.....	.....	.....	1.06
Wamego *1	100	48	74.7	4.86
Washington †	98	42	72.2	8.15
Wellington *1	101	47	79.4	3.90
Winfield *2	108	44	77.7	6.42
Winona *2	102	54	69.6	5.00
Yates Center †	95	43	74.0	11.00
Kentucky.				
Alpha * † 1	96	47	80.0	2.84
Blandville	97	43	76.3	0.86
Bowling Green a *1	97	35	72.1	0.98
Bowling Green b †	102	40	79.9	0.93
Caddo †	97	43	75.0	1.24
Canton * † 1	100	48	76.2	2.02
Carrollton * † 1	99	42	73.5	2.70
Catlettsburg * † 5	94	52	79.8	2.33
Cromwell * † 1	99	52	83.2	1.14
Earlington	95	45	77.0	1.72
Eddyville * † 1	91	47	74.0	1.83
Edmonton †	94	39	73.5	1.79
Elizabethtown	97	60	79.2	2.65
Eubank †	98	35	72.9	5.18
Falmouth †	.....	.....	.....	1.62
Fords Ferry †	101	42	78.5	2.07
Franklin * † 1	98	50	77.1	1.00
Georgetown	96	.....	.....	.....
Greendale *1	91	50	75.4	3.09
Greensburg * † 1	93	45	73.1	3.59
Harrodsburg †	97	37	74.3	2.18
Hendersonf	96	45	79.3	2.42
Hendricks †	.....	.....	.....	4.05
Louisa †	93	40	72.9	3.99
Marrowbone †	94	38	74.0	3.30
Matlock *1	98	50	78.0	1.10
Middlesboro	100	36	73.6	3.20
Mount Sterling †	94	40	73.2	4.60
Munfordville * † 1	92	45	72.7	4.82
Paducah a †	.....	.....	.....	1.59
Paducah b †	101	45	79.3	1.66
Russellville †	101	40	77.3	1.44
Sandy Hook †	96	37	72.7	4.61

Stations.	Temperature. (Fahrenheit.) Max.	Min.	Mean	Precip'n.
Kentucky—Cont'd.	°	°	°	*Ins.*
Shelby City *1	90	41	72.1	2.98
Shelbyville †	100	42	75.0	2.96
South Fork † 2	.....	.....	71.9	3.19
Springfield †	94	40	73.2	3.22
Williamsburg †	.....	.....	.....	4.85
Louisiana.				
Abbeville	95	59	76.6	6.98
Alexandria †	96	52	75.8	5.59
Amite †	100	52	77.4	8.74
Bastrop †	98	50	75.7	0.66
Baton Rouge †	97	56	77.3	2.09
Calhoun †	100	52	77.4	1.70
Cameron †	98	59	79.9	8.36
Cheneyville †	97	52	77.0	2.02
Clinton †	98	50	74.8	3.38
Coushatta a †	.....	.....	.....	2.61
Coushatta b †	98	50	77.2	2.08
Covington †	100	56	77.0	4.11
Davis	98	47	75.4	3.13
Delhi †	.....	.....	.....	1.72
Donaldsonville †	98	59	78.8	4.34
Emilie †	98	59	77.6	8.27
Farmerville	97	54	76.8	1.89
Franklin †	98	58	77.8	9.05
Girard †	.....	.....	.....	2.47
Grand Coteau	97	58	77.5	2.33
Hamburg	.....	.....	.....	1.62
Hammond †	99	52	77.8	2.44
Houma †	95	62	80.4	9.65
Jeanerette †	100	54	76.9	4.56
Lafayette †	101	53	79.0	1.59
Lake Charles †	97	52	75.6	10.08
Lake Providence †	98d	50	75.7	3.75
Lawrence †	.....	63d	82.8d	4.43
Liberty Hill	101	50	77.2	3.38
Many	96	52	73.8	1.91
Maurepas	100	53	78.0	6.09
Melville †	.....	.....	.....	4.34
Minden †	101	52	78.0	2.15
Monroe †	98	54	78.4	1.80
Natchitoches †	98	43	74.5	1.72
New Iberia	98	60	76.8	2.43
Oberlin †	95	53	76.2	6.43
Opelousas †	100	52	78.4	2.14
Oxford †	93	48	74.4	3.87
Paincourtville †	97	55	76.8	4.56
Plain Dealing	96	52	75.6	1.04
Plaquemine	95	57	74.5	2.79
Rayne †	98	55	75.6	5.89
Roseland	98	54	77.5	7.05
St. Joseph	97	61	78.1	2.20
Schriever †	98	58	77.3	9.55
Shell Beach	95	59	78.6	5.24
Sugar Ex. Station †	98	59	77.0	3.95
Sugartown †	93	44	71.1	2.04
Thibodeaux	.....	.....	.....	10.06
Wallace	97	60	76.9	7.57
West End	.....	.....	.....	3.52
Maine.				
Bar Harbor	86	46	61.0	1.50
Belfast *	86	49	61.0	1.98
Calais †	85	40	62.0	2.52
Cornish *1	90	50	66.6	2.49
Fairfield	91	41	65.1	2.97
Farmington †	96	38	67.4	3.20
Fort Kent †	88	29	62.4	4.09
Gardiner	92	42	66.5	1.18
Houlton †	92	35	63.6	4.07
Lewiston	92	43	67.0	1.74
Madison *1	90	48	66.6	6.00
Mayfield	88	38	63.7	6.45
North Bridgeton	91	44	66.1	2.61
Orono †	88	37	62.1	2.90
Petit Menan *1	72	50	59.0	.....
West Jonesport *1	70	39	52.6	.....
Maryland.				
Bachmans Val. *1	100	46	71.2	2.25
Benedict †	104	46	75.6	1.60
Boettcherville *1	94	48	70.9	2.40
Charlotte Hall	99	41	73.6	1.15
Cherryfields 2	.....	.....	72.8	1.90
Chestertown	94	46	71.4	1.40
College Park	99	45	71.6	1.81
Cumberland a †	92	45	72.2	1.64
Cumberland b	97	49	73.2	1.65
Darlington †	93	45	70.5	3.25
Denton	99	43	72.7	1.24
Easton †	96	41	72.2	1.34
Fallston *1	93	47	71.0	3.89
Fenby *1	92	47	70.9	1.00
Frederick	97f	42d	71.6d	2.97
Great Falls *2	94	51	73.4	1.72
McDonogh	94	47	73.4	.....
Mardela Springs †	96	46	72.5	0.70
Oakland †	86	38	64.0	4.45
Pocomoke City	99	49	74.4	1.64
Solomons †	96	49	74.9	0.87
Sunnyside	87	32	64.2	3.77
Taneytown †	.....	.....	.....	1.54
Massachusetts.				
Adams	91	32	66.4	.....
Amherst Ex. St'n a	93	37	67.5	3.43
Amherst Ex. St'n b	93	38	67.8	3.13
Andover	94	40	67.3	0.78
Ashland	.....	.....	.....	1.20

Meteorological record of voluntary observers, &c.—Continued.

Stations.	Temperature. (Fahrenheit.) Max.	Min.	Mean	Precip'n.
Massachusetts—Con.	°	°	°	*Ins.*
Bedford	91	42	67.1	1.83
Beverly Farms	92	42	64.3	0.67
Blue Hill (sum't)	93	42	66.4	0.74
Blue Hill (valley)	93	38	66.9	0.77
Boston	.....	.....	.....	0.79
Brockton a	97	43	67.4	0.68
Brockton b	.....	.....	.....	1.25
Brockton c	.....	.....	.....	0.41
Cambridge a	95	41	68.6	0.38
Cambridge b	92	44	68.8	0.81
Chestnut Hill	97	42	69.7	0.20
Clinton	.....	.....	.....	0.70
Concord †	95	39	67.1	0.53
Dudley	95	40	67.5	0.31
East Templeton *1	92	43	66.7	0.32
Egg Rock, Nahant	90	46	64.3	.....
Fall River *1	91	46	65.1	0.90
Fiskdale	.....	.....	.....	0.53
Fitchburg a *1	92	48	67.4	1.63
Fitchburg b	95	40	67.5	1.00
Framingham	95	40	69.0	1.11
Gilbertville	93e	33e	69.4h	1.03h
Groton a	92	38	66.2	0.89
Hingham	.....	.....	.....	1.31
Hyannis	96	46	68.7	0.43
Kendall Green	93	46	69.6	0.42
Lake Cochituate	97	34	66.8	1.61
Lawrence	93	44	68.9	0.54
Leeds	92	38	65.6	1.52
Leominster *	91	43	65.4	0.91
Long Plain *	92	50	64.6	1.83
Lowell a	95	42	68.0	0.38
Lowell b	96	40	67.0	.....
Ludlow Center	93	33	64.2	2.01
Lynn b	95	45	68.6	.....
Mansfield *1	98	44	66.8	0.51
Middleboro	92	37	65.8	0.61
Milton *1	92	41	65.6	1.35
Monroe	87	36	63.9	1.59
Monson	93	37	68.3	1.53
Mount Nonotuck	.....	.....	.....	2.55
Mystic Lake	.....	.....	.....	0.72
Mystic Station	.....	.....	.....	0.52
New Bedford a	90	45	65.4	0.90
New Bedford b	93	44	66.0	0.77
Newburyport	.....	.....	.....	0.15
North Billerica	98	41	69.2	1.22
Pittsfield	86	36	64.1	2.00
Plymouth *1	94	51	69.4	1.54
Provincetown	94	42	65.9	0.70
Randolph	.....	.....	.....	1.88
Roberts Dam	.....	.....	.....	0.47
Roxbury	92	45	67.8	0.89
Royalston *6	90	.....	67.0	.....
Salem	.....	.....	.....	0.62
Saliabury	.....	.....	.....	0.50
Somerset *1	96	42	70.4	1.63
South Dennis	94	42	66.0	0.41
Springfield Arm'ry	96	42	70.4	2.06
Taunton b	95	40	65.6	0.73
Taunton c	94	35	67.1	0.77
Taunton d	95	39	67.7	1.13
Turners Falls	92	40	68.7	2.37
Wakefield †	95	41	68.9	0.22
Waltham	.....	.....	.....	0.51
Webster	.....	.....	.....	0.64
Westboro †	95	38	69.5	1.02
Williamstown	87	35	66.2	2.99
Winchendon	.....	.....	.....	2.26
Winchester	.....	.....	.....	0.31
Winthrop	95	46	67.6	0.97
Worcester a	91	44	67.0	0.39
Worcester b	91	44	67.5	0.73
Michigan.				
Albion	96	37	71.0	3.38
Allegan	96	38	70.4	2.52
Alma	96	35	69.4	2.71
Ann Arbor	94	40	69.6	1.93
Arbela 2	.....	.....	67.8	1.31
Ball Mountain	92	37	67.8	1.99
Bear Lake	92	32	66.6	3.35
Bellaire	97	31	67.2	2.41
Benton Harbor	94	35	70.0	1.88
Berlin *1	101	31	69.1	1.28
Berrien Springs a *1	100	42	73.4	2.02
Berrien Springs b	.....	.....	.....	1.18
Birmingham	98	40	72.2	2.60
Bois Blanc *10	85	40	63.8	.....
Bronson	90	40	71.3	1.20
Calumet	89	35	64.6	1.07
Charlevoix	88j	35j	67.3j	3.57
Cheboygan	90	33	64.1	4.43
Clinton	96	39	70.7	3.02
Crisps *10	90	34	62.3	.....
Fairview	91	36	70.5	2.11
Fitchburg	96	35	69.6	3.78
Flint	94	34	68.4	1.67
Frankfort *10	82	40	65.2	.....
Gladwin	96	32	69.0	2.62
Grande Pointe au Sable *10	80	38	59.7	.....
Grand Rapids	98	39	71.4	2.45
Grape	93	38	70.3	3.72
Grayling	98	29	68.8	2.13
Grindstone City *10	90	38	63.5	.....

Stations.	Temperature. (Fahrenheit.) Max.	Min.	Mean	Precip'n.
Michigan—Cont'd.	°	°	°	*Ins.*
Hammonds Bay *10	90	40	62.3	.....
Hanover	92	38	69.9	3.91
Harbor Springs	92	31	63.5	3.67
Harrison	92	33	68.6	5.03
Harrisville	86	33	63.2	4.35
Hart	87	35	64.1	1.70
Hayes	93	32	67.4	1.27
Holland *10	88	42	68.3	.....
Howell	95	37	69.4	2.19
Jeddo	91	34	67.0	2.88
Kalamazoo	94	40	70.8	1.64
Lansing	93	38	70.2	1.81
Lathrop *1	92	40	66.3	4.89
Lewiston	95	32	69.1	5.24
Lodi	98	31	68.2	3.35
Ludington *10	90	38	65.5	.....
Madison	94	39	71.0	1.83
Manistee *10	88	40	63.4	.....
Mayville	92	33	70.2	2.71
Middle Island *10	86	41	60.2	.....
Montague *10	96	40	69.4	.....
Mottville	97	36	70.8	2.57
Muskallonge L. *10	87	36	59.3	.....
Muskegon *10	87	39	66.8	.....
N. Manitou Isl'd *10	86	38	63.3	.....
North Marshall	93	33	67.8	3.30
Northport	90	37	65.1	2.20
Old Mission	94	35	67.7	3.24
Ottawa Point *10	88	46	65.2	.....
Ovid	97	36	70.4	3.05
Paris	94	30	66.4	2.57
Parkville	.....	.....	.....	2.03
Pentwater *10	89	46	65.5	.....
Pte aux Barques *10	94	41	67.1	.....
Point Betsey *10	80	44	63.6	.....
Pontiac	94	35	68.6	3.43
Rockland	94	34	67.9	4.20
St. Ignace	83	34	62.6	4.03
St. Johns	95	37	70.7	.....
Sand Beach	94	32	66.2	4.48
Ship Canal *10	95	32	66.5	.....
Stanton	95	36	69.6	1.49
Sturgeon Point *10	83	42	63.9	.....
Thornville	95	38	72.6	1.90
Thunder Bay I'd *10	82	40	63.6	.....
Two Heart River *10	88	38	59.8	.....
Vandalia	93	38	71.2	1.22
Vermillion Pt. *10	85	32	56.8	.....
Ypsilanti	93	36	68.2	3.32
Minnesota.				
Ada †	92	32	69.4	4.15
Airlie †	98	36	70.4	1.70
Albert Lea †	92	40	69.1	2.57
Alexandria a †	.....	.....	.....	3.75
Alexandria b	92	38	72.2	.....
Beardsley †	98	31	71.0	2.62
Belle Plaine *1	99	58	82.8	.....
Bingham Lake †	100	38	71.1	1.66
Bird Island	95	36	68.8	1.73
Blooming Prairie *1	96	36	71.2	2.60
Bonniwells Mills †	98	37	73.0	1.09
Caledonia †	94	38	71.0	1.77
Cambridge †	93	35	70.2	1.66
Camden †	99	36	70.8	1.68
Campbell	94	32	69.6	2.05
Carver † 2	.....	.....	72.0	1.63
Clear Lake †	95	35	69.5	2.53
Clearwater *1	92	48	70.0	4.18
Collegeville	95	40	72.8	2.99
Cromwell *1	98	45	68.2	6.49
Crookston a †	95	38	70.3	2.23
Dassel *1	92	50	76.3	.....
Dawson	.....	.....	.....	4.64
Farmington †	95	36	71.8	1.12
Fergus Falls †	92	42	70.3	2.12
Fort Ripley †	.....	.....	.....	2.95
Grand Meadow †	96	34	70.2	7.99
Granite Falls	100	35	71.2	2.24
Hutchinson *1	95	48	71.8	2.20
Jadis † b	93	43	68.8	2.91
Lake Vermillion †	91	44	69.3	3.36
L Winnibigoshish *1	88	45	67.8	3.97
Leech Lake *1	89	46	67.8	3.04
Long Prairie †	96	31	68.9	2.53
Luverne †	96	37	70.3	0.84
Maple Plain	96	39	72.0	0.87
Marfield †	94	28	65.5	4.98
Mazeppa †	92k	30	68.3	0.26
Medford †	92	32	69.0	2.81
Milan †	100	38	72.8	0.92
Minneapolis a †	96	38	72.6	1.00
Minneapolis b †	94k	39	72.0	1.18
Minnesota City †	90	36	69.0	2.30
Montevideo †	96	37	71.7	2.73
Morris	95	39	71.4	4.25
New Richland *14	94	50	72.8	.....
New Ulm	96	50	77.8	3.86
Ortonville †	.....	.....	.....	4.82
Park Rapids †	92	36e	67.4e	2.42
Perham †	93	34	66.0	.....
Pine River *1	89	45	68.8	3.94
Pokegama Falls 1	92e	28	68.0	5.79
Red Wing †	.....	.....	.....	2.61
Redwood Falls †	.....	.....	.....	0.69
Reeds Landing †	.....	.....	.....	1.95

Meteorological record of voluntary observers, &c.—Continued.

Stations.	Temperature. (Fahrenheit.) Max.	Min.	Mean	Precip'n.
Minnesota—Cont'd.	°	°	°	*Ins.*
Rolling Green †	90	37	70.1	3.13
Rush City †	95°	35°	70.2°	1.19
St. Charles †	96	31	70.4	4.56
St. Cloud	88	46	70.3	4.15
St. Olaf	93	42	70.0	3.36
St. Peter †	95	39	73.4	1.65
Sandy Lake Dam *1	89	42	68.1	0.66
Sauk Center	92	36	69.8	1.16
Sunrise City *6	96	32	72.5	.....
Two Harbors †	89	35	61.8	2.49
Wabasha *1	98	44	70.7	2.64
Winona	95	44	70.4	4.17
Willmar †	94	39	70.2	4.00
Mississippi.				
Aberdeen †	102	43	78.3	1.85
Agricult'ral Col'ge	96	48	78.4	2.57
Batesville †	100	40	76.9	0.61
Bay St. Louis †	99	59	77.7	1.10
Biloxi †	98	60	79.6	1.13
Briers	94	56	76.8	2.21
Brookhaven †	100	53	78.2	6.78
Canton †	96	51	76.2	2.43
Columbus †	107	45	80.2	0.71
Corinth †	98	42	76.7	1.53
Crystal Springs †	98	50	76.6	1.44
Duck Hill †	98	42	74.2	1.48
Edwards	98	54	78.6	0.89
Egypt *1	97	45	77.2	.....
Enterprise †	98	48	76.4	1.92
Fayette †	92	55	75.6	3.96
French Camps †	92	39	70.2	4.07
Greenville *a*	97	51	77.4	0.33
Greenville *b* †	102	47	78.0	0.30
Hattiesburg †	99	56	79.4	1.65
Hazlehurst	98	50	77.2	3.45
Hernando †	97	46	77.5	0.30
Holly Springs	99	46	77.0	2.80
Itta Bena *† 1	100	52	80.0	2.00
Jackson †	98	52	78.0	2.94
Kosciusko †	95	46	74.9	5.35
Lake †	96	49	75.9	3.25
Leaf *1	98	58	77.0	.....
Leakesville †	99	54	77.9	6.10
Logtown †	99	59	77.6	4.08
Louisville †	96	43	75.0	5.62
Macon †	100	45	78.4	3.06
Mayersville	100	49	77.4	1.10
Moss Point	99	59	80.3	1.75
Natchez †	96	53	77.3	0.40
Okolona †	105	44	79.8	1.02
Palo Alto †	99	48	78.2	1.91
Pontotoc †	97	46	77.3	4.34
Port Gibson †	98	49	76.8	3.27
Stonington *1	96	62	77.8	.....
Thornton *† 3	100	52	77.5	0.54
Topton *1	98	54	79.8	1.20
Vaiden †	105	44	78.2	2.27
Water Valley *1	102	46	76.9	2.63
Waynesboro *a* †	100	50	75.1	1.67
Waynesboro *b* †	100	49	77.6	2.20
Woodville †	99	56	79.0	5.55
Yazoo City †	102	48	79.2	1.44
Missouri.				
Arlington †	.....	.....	.....	1.56
Arthur *3	.....	50	67.6	5.50
Bagnell †	.....	.....	.....	3.74
Bethany	98	42	74.6	5.13
Big Piney	.....	.....	.....	0.75
Birch Tree	94	42	73.0	1.99
Bluffton *1	102	54	77.6	2.19
Boonville †	.....	.....	.....	9.78
Brunswick	95	37	74.6	5.51
Carrollton †	94	48	75.7	4.99
Carthage	.....	.....	.....	3.56
Conception	85	50	68.7	5.35
Cowgill	.....	.....	.....	4.28
Darksville †	97	42	75.2	4.51
Downing	.....	.....	.....	4.94
East Lynn *3	.....	47	70.0	5.07
Edge Hill *5	94	50	75.1	1.14
Eight Mile *1	93	50	72.6	6.04
Eldon *1	92	46	73.4	3.34
Elmira	98	40	74.3	4.76
Emma *3	96	54	76.2	4.50
Fairport	.....	.....	.....	5.00
Farmersville	.....	.....	.....	3.44
Fox Creek *1	92	48	77.4	3.93
Fulton	.....	.....	.....	3.70
Gallatin *1	95	49	74.5	4.70
Glasgow	96	44	75.5	3.59
Glensted	.....	.....	.....	2.90
Gordonville *† 3	91	44	71.0	2.30
Gorin *3	.....	58	75.7	4.06
Greenville	102	60[1]	81.6[1]	2.13
Grove Dale	103	35	73.4	1.94
Half Way	.....	.....	.....	3.38
Harrisonville †	98	48	76.1	3.92
Hastain	97	39	75.1	5.36
Hermann †	.....	.....	.....	2.62
Houston	97	38	70.4	1.88
Ironton *1	93	47	73.3	1.15
Kidder	98	42	74.4	5.39
Lamar †	93	41	74.3	5.38
Lamonte †	.....	.....	.....	3.72
Langdon †	96	41	72.0	4.04
La Plata *1	91	54	75.4	3.40
Lebanon	99	36	73.4	3.14
Louisiana Bridge †	.....	.....	.....	2.83
McCune *1	98	48	75.4	3.29
Marble Hill 3	96*	39	72.2	3.07
Marceline	.....	.....	.....	4.50
Marshall †	95	43	75.0	5.69
Mexico †	100	42	76.5	6.09
Miami	.....	.....	.....	4.30
Mine La Motte †	93	41	72.4	2.52
Mount Vernon	98	42	73.8	3.56
Neosho	105	41	74.3	5.10
Nevada	.....	.....	.....	6.56
New Boston	.....	.....	.....	4.76
New Hartford *1 b	99	65	80.9	2.40
New Haven *1	101	50	79.9	2.05
New Madrid	.....	.....	.....	2.41
New Palestine	99	47	78.4	5.05
Oakfield †	.....	.....	.....	3.08
Oak Ridge *4	99	41	76.8	1.90
Olden †	99	42	74.6	1.67
Oregon *a*	97	42	73.7	4.82
Oregon *b* †	95	47	74.6	5.26
Oto	94	46	73.9	1.50
Palmyra	.....	.....	.....	2.90
Panacea	98	41	75.4	2.59
Phillipsburg *† 1	93°	53°	74.0°	4.30
Pickering *3	.....	42	69.4	3.40
Platte River *1	94	48	72.5	6.81
Poplar Bluff	96	44	74.6	2.33
Potosi	98	36	72.4	1.59
Princeton *1	102	52	74.8	3.46
Rea *1	94	52	75.0	5.21
Round Spring	.....	.....	.....	2.51
St. Charles	98	41	75.3	1.81
St. Joseph †	.....	.....	.....	5.13
St. Louis	96	40	74.8	1.73
Sarcoxie *3	.....	50	74.3	5.87
Sedalia	98	46	77.2	6.46
Shelbina	.....	.....	.....	6.90
Sikeston	105	44	78.0	2.18
Steffenville	.....	.....	.....	3.36
Stellada †	93	44	73.1	4.97
Sublett	99	37	74.4	2.30
Tindall †	.....	.....	.....	3.28
Unionville *b*	99	59	80.2	2.06
Vermont *† 1	94	54	74.1	5.17
Vilas	.....	.....	.....	2.11
Virgil City	.....	.....	.....	6.05
Warrenton	99	41	77.0	2.85
Wheatland	.....	.....	.....	5.75
Whiteside	98	40	75.4	2.05
Montana.				
Anaconda †	.....	.....	.....	3.91
Billings †	93	36	67.2	3.81
Boulder †	84	36	56.6	2.59
Butte †	83	32	53.7	1.78
Cascade †	.....	.....	.....	2.62
Cokedale *4	83	37	57.2	4.61
Columbia Falls †	93	34	57.1	2.78
Fort Custer †	90	44	67.1	2.03
Fort Keogh	91	25	68.4	1.52
Fort Logan †	80	33	54.1	3.93
Fort Missoula	90	34	56.8	1.88
Glasgow	92	39	67.2	1.86
Glendive †	101	43	68.8	5.85
Great Falls †	86	30	60.2	2.62
Hogan	89	34	57.6	1.65
Kipp †	87	32	56.4	2.29
Martinsdale †	89	35	60.4	4.72
Marysville †	84	33	55.0	2.35
Mingusville †	89	.....	.....	3.65
Musselshell †	94	37	64.8	.....
Radersburg †	.....	.....	.....	3.35
Red Lodge †	83	33	56.6	3.45
Utica	88	30	60.1	4.46
Virginia City †	88	32	56.1	3.49
White Sul. Spgs. †	88	33	57.8	3.94
Nebraska.				
Agee *1	103	46	72.6	0.63
Ansley †	105	30	72.1	2.34
Arborville *1	104	46	73.0	5.23
Ashland †	97	46	73.0	5.03
Ashton *1	104	40	70.6	2.91
Bassett	100	38	67.8	1.85
Beaver City	106	35	72.3	2.54
Bratton *1	98	52	73.7	4.49
Burwell *1	100	64	78.2	1.82
Callaway †	103	38	68.3	2.74
Columbus †	96	34	68.7	2.90
Cornlea	.....	.....	.....	1.88
Creighton *† 1	104	36	71.4	0.94
Crete	94	44	71.5	9.53
Culbertson	.....	.....	.....	1.92
Curtis *† 5	102	53	76.4	4.10
David City *† 3	94	58	71.5	6.55
Ericson *† 1	98	52	76.2	2.78
Ewing †	.....	.....	.....	0.92
Fairbury *5	94	56	75.0	6.45
Fort Robinson	91	43	67.0	3.16
Franklin †	106	40	73.1	3.88
Geneva †	101	44	73.5	7.91
Genoa †	95	45	73.7	4.80
Gering †	99	42	68.7	3.18
Glenwood *3	101	49	67.2	1.58

Meteorological record of voluntary observers, &c.—Continued.

Stations.	Temperature. (Fahrenheit.) Max.	Min.	Mean	Precip'n.
Nebraska—Cont'd.	°	°	°	*Ins.*
Haigler *1	98	50	76.2	3.44
Hartington †	100	37	71.7	1.15
Harvard *1	100	54	73.5	3.28
Hay Springs	91	36	66.5	1.93
Hebron †	96	42	72.3	6.51
Imperial *1	106	56	73.0	2.40
Indianola *5	101	55	75.6	2.97
Kennedy *† 1	95	51	69.1	4.43
Lexington †	93	34	68.2	3.15
Lincoln	95	47	72.4	6.99
Lynch *† 1	103	49	74.0	1.41
Madrid *† 5	100	42	72.6	8.23
Marquette *6	102	47	.....	2.77
Minden *1	102	42	71.8	5.51
Mullen *† 1	90	42	72.8	3.61
Nebraska City *† 1	93	45	71.2	4.17
Norfolk †	94	43	72.2	2.74
North Loup † 1	104*	32	73.4	3.05
Oakdale †	106	37	73.2	1.14
Ogallala †	104	.....	.....	2.04
O'Neill *1	106	52	73.3	1.08
Ough	.....	.....	.....	3.55
Plattsmouth †	.....	.....	.....	3.78
Ravenna	100	41	72.0	3.28
Red Cloud	.....	.....	.....	3.97
Santee Agency	112	42	75.1	0.62
Seward *3	100	45	72.9	6.83
Springview	98	42	71.4	2.92
Stanton *1	98	47	70.8	4.12
State Farm	96	42	72.6	7.02
Superior *5	92	57	75.6	5.20
Sutton	99	41	72.0	6.52
Table Rock *† 1	98	42	73.6	5.73
Turlington †	99	45	74.0	4.88
Wallace *1	102	50	70.7	2.70
Weeping Water *1	96	41	69.8	6.97
Whitman *1	92	40	65.4	3.03
Wilcox	.....	.....	.....	4.06
York *1	104	50	69.3	4.16
Nevada.				
Austin	82	24	53.4	2.44
Battle Mountain *1	90	36	63.8	1.15
Belleville *3	92	40	62.0	0.14
Belmont	84	23	52.8	0.85
Candelaria	90	31	59.8	0.18
Clover Valley †	.....	.....	.....	1.94
Cranes Ranch	.....	.....	.....	2.09
Elko *3	90	35	60.8	1.25
Ely	88	21	55.4	0.11
Fenelon *3	110	30	58.3	1.85
Golconda *1	92	40	62.9	1.33
Gold Hill	88	28	56.3	1.01
Halleck *6	96	32	58.1	2.77
Hawthorne *a* *3	83	41	62.3	1.24
Hawthorne *b*	88	32	60.5	1.24
Hot Springs *3	94	50	71.0	0.55
Humboldt *3	90	40	60.9	0.65
Lewers Ranch	84	26	55.4	1.17
McGill	89	20	54.6	0.15
Mill City *1	92	42	64.2	.....
Osceola	84[1]	32	57.5[1]	0.06
Palisade *1	84	38	56.8	0.51
Palmetto	85	26	54.6	0.13
Paradise	89	27	58.2	2.48
Reno State Univ'ty	85	.....	.....	1.06
Saint Clair	84	33	60.0	0.00
Stofiel	83	22	48.6	0.95
Sunnyside	91	30	64.6	0.00
Tecoma *3	86	38	61.3	0.27
Toano *1	85	30	56.6	1.90
Tybo	87	24	57.6	0.17
Verdi *3	87	37	57.3	0.86
Virginia City	80	28	55.0	3.27
Wadsworth *3	90	40	57.7	1.04
Winnemucca *3	83	35	59.0	2.03
Yerington	83	27	59.8	0.99
New Hampshire.				
Alstead *4	90	44	63.9	3.72
Antrim	.....	.....	.....	1.60
Belmont	.....	.....	.....	1.64
Berlin	91	34	64.6	.....
Berlin Mills	88	31	63.8	2.80
Bethlehem	86	34	65.4	3.45
Brookline *1	96	48	68.0	0.94
Concord	91	40	66.1	1.89
Dublin	87	40	64.6	3.32
East Canterbury	87	39	66.1	3.01
Grafton *1	92	35	65.4	3.80
Hanover	88	37	65.4	2.12
Keene	92	33	65.3	2.49
Lakeport	.....	.....	.....	2.47
Lancaster	89	41	69.2	4.52
Littleton	89	31	64.1	3.82
Nashua	96	38	68.0	0.34
Newton	95	37	67.4	0.53
North Conway	92	38	66.0	2.35
Plymouth	94	34	64.7	3.70
Sanbornton †	89	37	65.0	1.83
Stratford	94	35	67.2	3.37
Wiers Bridge	.....	.....	.....	2.45
West Milan	88	30	62.7	4.58
Wolfboro	.....	.....	.....	2.60
New Jersey.				
Allaire	98	38	70.1	.....
Asbury Park	98	45	70.6	3.08
Barnegat	101	41	69.5	1.99
Bayonne	98	45	71.2	1.74
Beach Haven	94	50	69.4	1.67
Belvidere	98	40	70.4	3.57
Beverly †	100	44	71.9	2.29
Billingsport *1	96	52	73.2	3.07
Blairstown	99	40	70.5	.....
Boonton	96	43	69.8	2.47
Bridgeton	98	50	74.4	2.08
Camden	98	47	71.6	1.80
Cape May	94	49	70.0	2.93
Cape May C. H †	93	46	70.0	2.44
Charlotteburg	91	36	69.0	2.32
Chester	91	42	67.7	1.13
Deckertown	94	40	68.0*	2.14
Dover	94	41	68.8	2.92
Egg Harbor City	97	45	70.6	1.04
Elizabeth †	99	45	71.9	1.93
Franklin Furnace	91	41	68.0	1.69
Franklinville	96	45	70.4	3.58
Freehold	94	45	69.9	3.59
Friesburg	.....	.....	.....	3.83
Gillette	95	38	68.7	2.11
Hammonton	.....	.....	.....	2.21
Hanover	95	44	69.8	1.46
Highland Park †	98	43	70.6	2.23
Hightstown	96	45	71.4	1.95
Imlaystown	102	39	72.8	2.51
Junction	.....	.....	.....	1.17
Lambertville	101	44	72.6	2.23
Millville	102	47	74.0	0.99
Moorestown	98	45	71.0	1.69
Newark *a*	93	46	70.0	1.29
Newark *b* †	96	47	70.5	1.51
New Brunswick *a*	97	42	70.8	2.25
New Brunswick *b*	94	43	68.4	2.43
Newton	95	43	69.8	1.81
Ocean City	98	48	68.8	2.90
Oceanic	98	51	73.0	4.40
Papakating	.....	.....	.....	1.23
Paterson	97	45	72.0	1.94
Pensauken	.....	.....	.....	1.95
Plainfield	97	45	70.6	5.90
Rancocas *	97	49	.....	1.46
Readington *6	98	50	73.5	.....
Ringoes	.....	.....	.....	2.33
River Vale	95	38	69.0	1.17
Somerville	102	43	71.6	2.66
South Orange	96	46	70.3	1.70
Tenafly	92	35	68.2	1.27
Toms River	100	43	71.0	3.05
Trenton	98	46	73.0	2.59
Vineland	100	46	73.8	3.50
Whiting	99	46	72.6	2.39
Woodbine	96	42	69.8	2.17
New Mexico.				
Albert †	100	49	72.4	3.57
Albuquerque †	95	49	71.4	0.03
Alma	97	42	67.5	0.00
Bloomfield	98	36	67.0	T.
Chama †	93	31	58.1	0.03
Ciruella	.....	.....	.....	1.32
Deming *3	100	68	82.2	0.00
East Las Vegas †	86	41	63.2	2.82
Eddy *1	104	59	79.6	2.46
Estalina Springs	95	31	64.7[3]	0.10
Fort Bayard	90	41	68.0	0.00
Fort Stanton †	94	42	66.2	1.07
Fort Wingate	91	35	64.4	0.00
Galisteo †	89	48	68.6	0.49
Gallinas Spring †	100	47	71.1	2.46
Gila	.....	.....	.....	T.
Halls Peak †	83	32	57.2	4.10
La Luz †	98	45	72.8	0.15
Las Cruces †	102	41	72.2	T.
Lordsburg *3	104	70	88.8	0.00
Monero †	87	31	58.2	T.
Olio †	96	33	67.4	0.00
Rincon †	107	42	77.1	T.
Roswell	101	*52	71.5	1.33
San Marcial †	96	45	72.0	0.00
Socorro †	102	49	75.6	T.
Springer †	95	46	72.0	0.33
Sulphur Hot Sp'gs †	83	30	53.5	0.00
Taos †	98	33	63.6	0.15
New York.				
Addison	92	38	67.5	1.82
Alfred Center	92	32	65.5	2.14
Angelica †	92	34	64.4	2.02
Arcade	90	32	64.0	5.35
Arkwright	85	37	64.7	.....
Atlanta	.....	.....	.....	3.14
Baldwinsville	93	42	69.1	5.52
Bedford	94	41	68.3	2.07
Big Sandy *10	92	48	65.9	.....
Binghamton †	93	36	66.6	1.97
Borina Center	.....	.....	.....	6.32
Brentwood	93°	43	68.1°	1.70
Brookfield	90	32	64.7	2.20
Canton †	90	34	67.4	2.20
Charlotte *10	86	42	64.7	.....
Cooperstown †	87	36	65.6	2.62
Cortland	87	38	65.4	4.60
De Kalb Junction	.....	.....	.....	2.28
Elmira †	96	41	70.5	1.94

Meteorological record of voluntary observers, &c.—Continued.

Stations.	Temperature. (Fahrenheit.) Max.	Min.	Mean	Precip'n.
New York—Cont'd.	°	°	°	*Ins.*
Fleming[1]	91	41	67.0	5.23
Fort Niagara †	92	41	68.2	1.44
Friendship	96	33[c]	64.0[c]	3.37
Glens Falls	95	38	68.4	3.26
Gloversville	89	39	66.1	4.93
Hamilton				2.30
Hess Road St'n †	92[c]	37	67.1[c]	1.55
Honeymead Brook	90	39	66.8	2.53
Humphrey †	91	35	64.9	4.43
Hyndsville	95	35	68.2	4.13
Ithaca	90	36	66.7	3.40
Jamestown *[6]	89	41	67.8	
Kings Station				5.11
Lebanon Springs	92	32	66.0	1.35
Le Roy	92	36	67.6	3.41
Lockport	93	37	67.1	3.89
Lowville	88	36	64.9	2.75
Madison Barracks †	92	41	65.8	3.02
Malone	84	36	64.7	4.76
Middletown	91	43	69.3	3.56
Minnewaska	89	41	67.4	1.01
Mount Morris	94	31	66.2	2.08
Newark Valley				4.34
New Lisbon	89	30	63.8	3.88
North Hammond †	94	38	68.4	3.35
Number Four †	85	31	62.5	4.60
Ogdensburg	88	38	65.8	1.43
Oxford	96	33	66.9	4.02
Palermo †	91	37	66.7	3.56
Perry City	93	33	66.2	4.05
Phœnix				5.22
Plattsburg B'ks	89	39	66.6	3.52
Port Jervis	92	40	68.7	1.95
Potsdam	87	36	66.0	3.66
Poughkeepsie	95	37	68.1	1.71
Rome	94	31	65.2	5.98
Saranac Lake	90	34	64.8	5.06
Scottsville				2.05
Setauket †	91	46	68.2	1.17
South Canisteo	92	32	65.8	3.51
South Kortright †	89	28	63.2	4.16
Stillwater	96	40	69.6	1.85
Trumansburg				3.83
Turin	84	36	62.9	4.70
Wappingers Falls	95	42	70.8	1.01
Warwick				1.92
Watertown	98	34	66.8	4.77
Watkins	94	36	69.0	2.30
Wedgwood	94	37	67.6	2.59
West Chazy				4.35
West Point †	95	45	70.6	2.08
Willets Point	94	48	70.4	1.78
North Carolina.				
Asheville †	91	45	70.0	2.99
Auburn *[1]	98	47	76.0	1.69
Bailey *[1]	101	52	75.8	2.44
Bakersville †	91	37	66.8	3.97
Blowing Rock †	83	36	62.8	2.30
Bryson City †				3.19
Chapel Hill †	104	50	74.8	1.76
Columbus	84	44	70.3	3.28
Currituck Inlet †				3.77
Erie Mills	101	42	74.8	1.66
Experiment'l Farm	97	51	77.1	2.02
Fair Bluff †				1.95
Falkland *[1]	97	52	77.8	3.10
Fayetteville †				2.12
Flat Rock	92	42	69.2	3.84
Forest Hill *[1]	90	54	69.7	5.03
Goldsboro	97	46	77.6	1.07
Greensboro	100	58	79.5	4.35
Henderson †	99	43	76.2	2.42
Highlands	84	35	65.0	5.42
Horse Cove †	92	35	70.4	5.60
Lenoir *† [1]	91	50	72.1	3.95
Littleton †	99	48	75.7	2.51
Lumberton †	97	50	77.7	2.93
Lynn *† [2]	95		72.2	4.01
Marion	94	45	72.0	1.94
Mocksville †	94	43	74.2	1.83
Moncure †				1.30
Morganton *† [1]	94	44	72.4	2.07
Mount Airy †	95	45	72.2	2.01
Mount Pleasant	96	39	75.0	2.52
Murphy †				7.71
Newbern †	94	50	76.5	1.20
Oak Ridge †	98	40	75.5	2.45
Pittsboro	93	40	72.2	2.11
Raleigh *† [1]	100	47	77.3	1.30
Rockingham †	100	45	77.2	3.60
Roxboro †	100	42	75.6	1.72
Salisbury	93	54	77.5	1.84
Saxon †	102	45	75.0	1.40
Selma	95	47	75.9	0.70
Shelby †	96	49	74.6	1.37
Sioan	97	50	76.0	5.25
Soapstone M't †	99	35	73.7	1.71
Southern Pines †	99	48	77.7	2.85
Stem				1.17
Tarboro	100	47	77.2	3.72
Waynesville †	90	34	67.7	3.17
Weldon †	96	44	76.2	2.06
Willeyton	95	46	74.3	2.74
North Dakota.				
Ashley	102	31	66.3	4.88

Stations.	Temperature. (Fahrenheit.) Max.	Min.	Mean	Precip'n.
N. Dakota—Cont'd.	°	°	°	*Ins.*
Berlin †	101	27	68.5	5.46
Bottineau	93	36	66.4	1.21
Churchs Ferry	98	28	70.4	3.42
Devils Lake	96	34	67.8	5.65
Fargo †	96	33	69.0	6.23
Forman †	102	32	72.1	2.92
Fort Berthold	97	38	70.9	2.15
Fort Stevenson †	97	35	68.8	2.12
Fort Yates †	96	42	69.8	2.10
Gallatin †	100	32	68.9	2.66
Grafton †	98	31	68.6	2.10
Jamestown †	96	37	69.9	4.93
Kelso	97	30	67.8	3.46
Lakota †	98	31	68.4	3.90
Lemert †	103	25	69.3	3.34
McKinney	94	29	70.1	4.71
Milton †	95	37	69.2	4.28
Minto †	102	33	71.1	1.75
Napoleon †	100	33	69.1	3.25
New England City †	98	37	66.6	3.10
New Salem	97	34	67.2	1.96
Oakdale †	90	35	65.4	4.48
Portal †	102	29	69.4	3.98
Power †	101	35	73.0	3.51
St. Johns †	92	34	67.0	2.50
Sheyenne	97	27	70.4	3.00
Steele †	99	26	68.2	1.42
University †	94	34	67.8	3.75
Wahpeton †	96	34	70.3	2.63
Wild Rice † [3]			70.8	4.84
Williamsport	100	31	68.2	1.07
Willow City †	94	30	66.5	1.59
Woodbridge †	96	27	65.8	3.47
Ohio.				
Akron	93	37	70.1	1.97
Annapolis	98	35	69.4	1.79
Arcanum				1.76
Ashland	89	46	72.4	2.12
Athens	95	41	72.0	4.16
Atwater				1.39
Auburn	94	31	66.3	2.76
Bangorville	96	36	70.6	3.76
Batavia				1.53
Bellefontaine	95	36	71.9	2.53
Benton Ridge	100	32	73.4	3.43
Bethany	95	37	72.2	3.20
Big Prairie	93	38	68.9	1.38
Binola	97	39	73.8	3.47
Bissells	93	33	67.9	3.41
Bladensburg	95	40	69.7	1.28
Bloomingburg	95	41	71.5	1.66
Bloomington				2.80
Bowling Green	101	32	71.1	2.58
Bucyrus	97	34	70.1	2.80
Caledonia †				3.04
Cambridge	94	37	69.2	2.28
Camp Dennison	95	43	73.7	4.23
Canal Dover	94	35	69.2	2.13
Canton †	94	40	70.6	1.74
Cardington	96	34	69.0	2.38
Carrollton	96	34	69.5	1.54
Cedarville *[1]	94	46	75.2	1.94
Celina	95	39	72.8	2.20
Cherry Fork	100	38	74.0	2.23
Circleville †				0.52
Clarksville	93	40	72.1	3.81
Cleveland	92	37	69.8	2.44
Clifton	97	37	72.1	1.43
Coalton	96	35	70.7	3.49
Colebrook		32		3.44
Cynthiana	93	42	72.5	2.38
Dayton *a*	97	43	74.4	3.75
Dayton *b* †				2.05
Defiance	94	36	70.3	3.49
Demos	92	41	70.5	0.62
Dupont	94	34	71.4	1.29
Ellsworth	92	37	68.1	2.61
Elyria	96	35	70.7	3.48
Fairport Harbor *[6]	90	36	68.2	
Fayetteville	96	40	72.7	4.64
Findlay	97	33	70.9	3.47
Fostoria	97	35	71.7	3.27
Frankfort	93	42	74.1	3.18
Garrettsville	93	34	66.7	3.17
Georgetown	97	40	74.1	3.43
Granville	96	39	70.4	4.27
Gratiot	94	40	70.1	2.25
Greenfield	97	45	73.7	4.36
Green Hill	98	33	68.3	2.12
Greenville	89	40	70.4	2.72
Guysville	93	38	69.9	2.34
Hackney	96	40	71.5	2.59
Hanging Rock	98	38	72.7	1.58
Harbor	90	36	67.4	4.34
Hedges	101	35	73.6	0.62
Hillhouse	93	29	67.6	3.23
Hillsboro	93	40	73.2	2.86
Hiram	92	36	69.0	3.23
Jacksonboro	98	40	73.9	2.65
Kenton †	97	35	71.9	4.13
Kilbourne	92	35	68.2	2.64
Killbuck	97	42	71.5	1.04
Leipsic		39		3.54
Levering	98	33	68.2	3.44
Logan	99	40	73.3	3.79

Meteorological record of voluntary observers, &c.—Continued.

Stations.	Temperature. (Fahrenheit.) Max.	Min.	Mean	Precip'n.
Ohio—Cont'd.	°	°	°	*Ins.*
Lordstown	92	34	66.8	2.82
Lowell	99	45	72.9	2.80
McArthur	96	38	71.4	3.60
McConnelsville	95	40	71.2	2.81
Mansfield †				4.81
Marietta *a* †				2.80
Marietta *b*	90[b]	40[1]	70.1[1]	3.51
Marion	97	35	71.4	2.41
Milfordton	96	37	69.4	3.64
Milligan	100	33	71.5	2.53
Millport	94	46	72.8	1.88
Montpelier	96	39	71.0	1.55
Napoleon	100	36	73.5	4.88
Nelsonville	98	43	72.4	2.94
New Alexandria	98	38	70.4	1.04
New Berlin	96	38	70.4	1.16
New Bremen	96	35	71.4	1.08
New Comerstown	96[2]	33	74.0[2]	2.52
New Holland	98	40	71.7	3.95
New Paris	96	52	79.4	2.67
North Fairfield *[1]	95	47	70.8	2.25
North Lewisburg	97	38	72.8	3.15
North Royalton	95	34	69.3	2.67
Northwood	98	34	71.8	3.06
Norwalk	99	29	70.6	2.96
Oberlin	94	31	71.0	2.99
O. S. University	95	40	71.1	1.64
Orangeville	92	33	67.9	0.45
Pataskala	99	39	70.7	2.81
Peoli	95	39	70.8	1.25
Plattsburg	96	38	71.7	2.95
Pt. Marblehead *[10]	88	50	72.6	
Pomeroy	99	39	72.3	2.14
Portsmouth *a* †				2.86
Portsmouth *b*	102	43	77.2	2.81
Ridg'v'le Corners	95	36	71.0	2.18
Ripley	98	42	74.0	2.17
Rittman	100	34	67.6	3.23
Rosewood	92	36	70.4	1.74
Rush Creek				2.98
Sharon Center				2.51
Shenandoah	96	30	69.5	2.17
Sidney *a* †				3.52
Springboro				2.21
Stoutsville				1.25
Thurman	97	39	74.0	1.77
Tiffin †	94	36	71.6	4.63
Upper Sandusky	95	35	72.3	4.16
Vanceburg	95	40	72.8	3.24
Van Wert	93	35	70.7	2.72
Vermillion	91	33	69.0	2.19
Vickery	95	35	70.0	2.66
Walnut				1.83
Warren	97	34	68.2	1.57
Wauseon	97	35	71.8	2.33
Waverly	99	40	74.1	3.40
Waynesville				3.12
Wellington	96	31	72.5	3.04
Westerville	92	41	70.1	2.54
Weymouth	94	32	68.8	2.71
Wheeler †				3.62
Wooster *a*	93	37	67.9	2.23
Wooster *b* †				2.23
Youngstown	99	38	70.3	2.43
Zanesville †				2.68
Oklahoma.				
Alva †	106	48	77.8	2.91
Anadarko †	106	42	79.4	0.16
Arapaho †	100	44	76.7	4.82
Burnett †	100	41	75.0	2.18
Clifton †	105	43	77.8	1.08
Enid †	106	48	79.6	0.57
Fort Reno †	103	37	76.6	1.10
Fort Sill	103	48	76.0	1.04
Fort Supply †	103	48	75.4	1.31
Guthrie †	102	49	79.4	0.47
Keokuk Falls				0.71
Mangum †	103	52	77.2	2.44
Otoe *[1]	103	58	78.6	0.14
Pond Creek †	105	46	77.4	0.61
Stillwater †	102	50	77.2	1.85
Winnview †	104	50	79.7	1.35
Oregon.				
Albany *a* †	82	42	59.2	2.55
Albany *b* *[8]	84	50	63.5	0.69
Arlington †	93	40	64.0	0.70
Ashland *a* *[8]	80	45	60.2	3.65
Ashland *b*	84	37	59.4	1.74
Aurora *[8]	90	50	63.2	2.93
Aurora (near)	89		59.4	1.74
Bandon	67	49	57.0	4.47
Bay City				4.06
Brownsville *[8]	82	46	61.8	4.18
Burns †	84	14	47.3	1.30
Canyon City †	87	29	58.3	1.82
Comstock *[8]	82	45	59.9	3.81
Cornelius	88	37	59.6	2.20
Corvallis *a*	82	43	57.8	2.94
Corvallis *b* *[8]	80	45	58.9	2.13
Corvallis (near)	86	40	60.0	2.52
Crook	85	26	51.3	2.41
Detroit	96	35	57.2	5.42
Gardiner	72	42	56.4	2.98
Glenora	90	37	56.4	5.00
Grants Pass *a* †	85	40	60.2	2.63

Stations.	Temperature. (Fahrenheit.) Max.	Min.	Mean	Precip'n.
Oregon—Cont'd.	°	°	°	*Ins.*
Grants Pass *b* *[8]	78	48	61.9	0.94
Happy Valley †	87	27	54.0	2.76
Hood River	95	43	62.0	1.42
Hood River (near)	86	39	56.2	1.79
Hubbard	83	41	58.5	3.17
Joseph	82	30	53.0	2.56
Klamath Falls	86	32	56.6	1.80
Lafayette *[8]	85	46	59.5	1.67
La Grande †	85	35	58.5	1.51
Langlois	74	45	60.0	3.14
Lone Rock	83	25	52.0	1.57
McMinnville *a* †	86	39	58.4	1.95
McMinnville *b* *[8]	88	44	58.6	1.67
Merlin *[8]	86	44	62.7	2.85
Monmouth *[8]	86	50	65.0	2.03
Mount Angel †	83	42	59.5	2.79
Newbridge	94	33	63.8	0.07
Newport	70	41	56.2	3.15
Pendleton	89	34	61.6	1.08
Portland *[8]	86	46	63.0	2.58
Riddles *[8]	82	36	55.7	2.60
Roseburg *[8]	84	46	62.4	2.72
Salem *a* *[8]	79	47	58.3	3.27
Salem *b* †	85	42	59.4	3.50
Sheridan *[8]	83	46	60.1	1.36
Silver Lake	85	22	53.4	0.82
Silverton *[8]	80	48	59.1	2.73
Sparta	79	26	54.0	0.34
Springbrook	85	40	58.7	1.93
Springfield *[8]	85	45	62.0	2.59
The Dalles †	91	40	63.1	1.15
Tillamook R'k L. H.				3.13
Toledo	78	38	56.3	4.55
Umatilla †				0.53
Vale	92	30	61.8	0.92
Vernonia *[1]	92	45	58.7	3.88
Pennsylvania.				
Altoona	95	47	73.0	2.66
Aqueduct	101	42	72.2	2.78
Beaver Dam †				1.38
Blooming Grove *[1]	98	45	67.7	3.51
Bloomsburg	94	43	69.1	2.25
Brookville †				2.03
Browers Lock				3.66
Carlisle *a*	100	42	71.4	2.05
Cassandra	90	43	70.8	1.67
Chambersburg †	96	43	70.4	3.17
Clarion †				2.85
Coatesville	98	42	70.6	2.29
Confluence †				2.90
Coopersburg	92	44	69.9	2.58
Davis Island Dam †				0.96
Doylestown				1.35
Drifton	94[4]	36[4]	65.9[4]	2.87
Du Bois †				3.41
Dyberry †	92	30	64.8	2.86
East Mauch Chunk	97	38	69.7	2.87
Easton	94	41	70.8	2.54
Edinboro *[1]	91	35	68.0	
Elwood Junction †				1.51
Emporium	91	39	67.4	3.06
F'ks of Neshami'y[1]			72.1	3.83
Frederick				2.91
Freeport †				2.27
Gettysburg				1.78
Grampian	94	42	69.0	2.07
Greensboro †				2.49
Greenville	94	33	67.8	1.78
Hamburg	102	44	71.2	1.40
Hollidaysburg	97	37	68.9	3.87
Honesdale	89	35	67.0	3.10
Huntingdon †	98	38	68.8	3.56
Johnstown †	98	42	70.0	2.12
Kane	90	35	64.4	2.34
Kennett Square	96	41	70.6	2.45
Kilmer *[6]	99	49	71.1	3.65
Lancaster	96	42	70.5	2.54
Lansdale				2.47
Lebanon	97	40	69.9	1.91
Le Roy †	90	37	66.9	1.64
Lewisburg	95	42	68.1	2.39
Lock Haven †	101	40	70.8	3.52
Lock No. 4 †				2.38
Lycippus	93	40	69.8	1.66
Mahoning †				3.02
Oil City †				1.62
Ottsville				2.49
Parker †				3.63
Philadelphia *b*	99	47	73.0	2.56
Philadelphia *c*	99	47	72.9	2.74
Phœnixville	96	44	71.4	5.31
Point Pleasant				2.79
Pottstown	98	45	72.2	1.74
Quakertown	96	39	69.1	3.22
Reading [2]			70.8	0.91
Ridgway †				2.19
Saegerstown	95	31	65.7	1.59
Salem Corners	91	40	68.4	3.13
Saltsburg †				1.99
Seisholtzville				4.32
Selins Grove	97	40	70.5	2.40
Shinglehouse	93	35	64.6	3.36
Smethport	91	35	64.8	3.65
Smiths Corners				1.95
Somerset	94	42	70.4	3.32

Meteorological record of voluntary observers, &c.—Continued.

Stations.	Temperature. (Fahrenheit.) Max.	Min.	Mean	Precip'n.
Pennsylvania—Con.	°	°	°	*Ins.*
South Eaton	91	39	67.2	1.09
State College	92	41	68.3	4.60
Stoyestown †	.....	.....	.....	2.44
Swarthmore	98	48	73.8	2.93
Uniontown	95[d]	38[d]	72.0[d]	1.40
Warren †	.....	.....	.....	3.09
Wellsboro *† [1]	92	38	65.6	1.89
West Chester	95	44	71.0	3.74
West Newton †	.....	.....	.....	1.75
Westtown	93	41	69.7	4.08
Wilkesbarre †	97	37	70.0	1.78
York †	96	42	70.2	3.06
Rhode Island.				
Kingston	93	42	66.1	0.50
Lonsdale	.....	.....	.....	0.39
Pawtucket	93	44	68.2	0.40
Providence *c*	94	44	67.7	0.77
South Carolina.				
Allendale †	100	50	78.7	5.53
Anderson †	.....	.....	.....	2.94
Batesburg †	100	48	76.1	4.18
Blacksburg	96	42	74.5	5.36
Blackville †	100	54	79.0	5.13
Blenheim *[6]	97	53	76.4	3.32
Branchville	100	54	82.6	2.84
Camden †	.....	.....	.....	2.00
Central [2]	.....	.....	74.4	2.88
Cheraw *a* †	99	41	77.2	5.08
Cheraw *b* †	.....	.....	.....	4.93
Conway †	.....	.....	.....	2.23
Cross Hill *[1]	100	50	78.6	5.55
Darlington *[1]	96[d]	52[d]	73.9[d]	.....
Edisto	.....	.....	.....	2.64
Effingham †	.....	.....	.....	2.56
Flint Hill †	99	45	76.7	3.83
Florence †	100	54	80.5	2.49
Georgetown †	.....	.....	.....	1.09
Greenville †	94	47	74.8	3.98
Greenwood †	104	52	78.1	3.52
Hardeeville	94	52	75.6	4.96
Hollands Store †	95	41	75.4	3.27
Kingstree *a*	98	48	77.0	0.25
Kingstree † *b*	.....	.....	.....	0.25
Little Mountain *[1]	99	55	77.3	1.85
Longshore †	101	45	76.3	3.25
McCormick * †	95	51	74.4	9.20
Mount Carmel †	.....	.....	.....	4.13
Pinopolis *[1]	89	55	74.5	2.42
Port Royal †	96	58	79.3	5.23
St. Georges †	98	50	77.6	2.66
St. Matthews †	98	56	80.4	3.60
St. Stephens †	.....	.....	.....	0.97
Santuck *[1]	96	52	76.8	6.13
Shaws Fork *[1]	105	50	78.4	3.49
Simpsonville	102	43	77.4	3.03
Society Hill †	96	52	76.4	4.99
Spartanburg	104	42	78.2	1.16
Statesburg †	98	53	78.0	1.33
Trenton	98	53	78.4	4.54
Trial †	98	51	76.8	2.42
Watts *[5]	94	48	77.1	6.09
Yorkville	95	47	77.1	3.44
South Dakota.				
Alexandria †	106	35	72.8	1.12
Armour †	102	37	71.2	1.39
Ashcroft †	91	38	64.8	5.00
Bowdle * † [1]	95	52	72.2	3.65
Britton †	99	30	70.3	6.20
Brookings †	97	37	68.0	1.30
Castlewood †	98	34	69.6	3.27
Clark †	95	31	69.9	2.70
Cross †	85[e]	34[e]	60.4[e]	5.51
De Smet †	102	46	73.2	1.30
Farmingdale	.....	.....	.....	2.46
Faulkton †	99	40	70.2	4.27
Flandreau †	102	37	72.6	1.96
Forestburg †	100	33	71.4	0.88
Forest City †	112	42	76.4	3.34
Fort Meade	87	40	67.0	3.80
Fort Sully	99	42	73.4	4.50
Frankfort †	101	30	70.5	2.92
Gale †	.....	.....	.....	3.26
Gary	98	40	71.6	2.90
Greenwood	107	40	75.2	1.50
Highmore	98	32	70.2	5.91
Hitchcock	.....	.....	.....	2.51
Hotch City †	103[j]	35	71.0[j]	2.75
Howard †	98	35	70.0	2.25
Kimball †	99	36	71.8	1.36
Mitchell †	102	35	71.5	0.54
Oelrichs †	100	43	69.1	1.83
Ordway	.....	.....	.....	7.37
Parker †	104	35	71.0	1.27
Parkston †	106	35	71.2	0.74
Piedmont	.....	.....	.....	4.72
Plankinton †	99	37	71.4	2.81
Rochford	.....	.....	.....	5.41
Rosebud †	98	37	69.0	2.50
Shiloh †	105	37	73.6	1.08
Silver City	.....	.....	.....	5.20
Sioux Falls †	103	34	72.4	1.36
Spearfish †	95	43	66.6	5.12
Webster †	99	33	70.8	3.89
Wentworth †	102	29	68.8	1.00
Wessington †	.....	.....	.....	2.52
S. Dakota—Cont'd.				
Wessington Sp'gs †	99	38	71.8	1.96
Yankton †	102	44	72.8	1.48
Tennessee.				
Andersonville *[1]	96	38	74.4	1.47
Arlington	100	46	77.1	1.32
Ashwood *[1]	96	45	74.8	3.81
Bolivar †	98	43	74.8	2.14
Bristol	92	43	71.4	3.18
Brownsville	100	46	78.9	2.03
Byrdstown †	91	36	71.6	2.33
Carthage †	.....	.....	.....	2.77
Clarksville	97	43	76.5	2.22
Clinton †	.....	.....	.....	1.48
Columbia †	.....	.....	.....	2.92
Covington *a* †	95	46	75.8	1.96
Covington *b*	100	48	79.2	1.28
Dyersburg	98	44	77.6	0.76
Florence Station * [1]	94	51	75.8	2.34
Greeneville †	92	35	72.1	4.13
Hohenwald	.....	.....	.....	4.76
Jacksboro *[4]	91	39	70.8	3.51
Jackson *[1]	98	52	76.2	0.70
Johnsonville †	.....	.....	.....	1.66
Loudon †	.....	.....	.....	2.50
Lynnville *[1]	94	43	72.5	2.57
McKenzie	97	54	76.2	0.30
Milan	100	44	76.7	1.42
Missionary Ridge [16]	.....	50	73.4	.....
Nunnelly *[1]	95	48	76.3	2.11
Palmetto †	.....	.....	.....	2.27
Parksville *[1]	96	41	73.4	1.81
Pikeville *[1]	95	42	75.2	1.76
Riddleton †	95	46	75.2	6.28
Rockwood †	.....	.....	.....	4.17
Rogersville *[1]	92	46	73.8	5.47
Rugby *[1]	92	49	71.8	1.05
Savannah *[1]	98	45	79.1	3.55
Springdale *[1]	98	38	75.9	3.35
Trenton	96	43	74.8	1.17
Tullahoma * † [1]	93	41	73.8	1.50
Waynesboro *[1]	96	40	72.7	1.82
Texas.				
Albany *[1]	91	52	75.0	1.59
Arlington †	99	52	78.4	1.45
Arthur City †	.....	.....	.....	0.00
Aurora *[1]	104	58	78.7	0.89
Austin *b* [6]	94	61	79.2	.....
Belton †	102	53	81.0	5.34
Boerne * † [2]	96	60	76.6	2.17
Brady †	99	52	77.3	1.99
Brazoria †	92	60	78.4	5.50
Brenham †	97	58	80.6	2.42
Burnet * † [1]	92	60	77.1	1.35
Camp Eagle Pass	105	61	84.8	0.35
Childress †	103	53	76.1	5.93
Coldwater †	104[l]	45[l]	74.2[l]	3.94
Coleman *[2]	.....	57	75.4	2.96
College Station	107	55	83.4	1.88
Columbia †	96	60	79.4	8.53
Corsicana *b* †	99	54	78.5	5.64
Cuero †	99	62	82.0	4.75
Dallas †	98	51	78.0	3.35
Devine	98	55	79.8	0.30
Durham	.....	.....	.....	3.63
Duval *[1]	100	62	82.0	4.35
Estelle †	104	55	80.0	1.89
Forestburg †	100	52	75.1	3.02
Fort Brown †	96	64	81.9	0.55
Fort Clark	103	63	84.0	0.05
Fort Hancock	107	35	75.7	0.17
Fort McIntosh	102	67	84.4	1.30
Fort Ringgold †	99	65	83.8	3.00
Fredericksburg † [1]	95	57	77.2	1.45
Gainesville †	99	53	77.6	1.46
Graham †	103	48	74.6	4.06
Grape Vine †	100	52	77.2	1.33
Hale Center †	103	53	74.6	2.50
Hallettsville †	102	59	80.2	3.96
Hartley †	97	36	62.3	3.80
Haskell †	101	58	79.2	0.79
Hearne	96	58	77.4	2.90
Hewitt	.....	.....	.....	1.90
Highland	102[l]	50[h]	79.0[l]	0.90
Houston †	97	57	77.8	5.45
Huntsville †	96	52	79.4	3.82
Kent	.....	.....	.....	2.58
Lampasas *[1]	100	52	80.6	2.04
Llano * † [2]	105	56	79.4	4.20
Longview †	101	54	80.0	2.62
Luling †	102	58	81.7	2.55
McGregor †	95	45	67.0	1.14
Marshall †	98	62	78.9	1.95
Menardville * † [1]	98	57	76.2	0.88
Midland †	110	54	79.5	0.85
Mountain Spring †	101	51	77.8	2.37
New Braunfels †	95	58	78.5	3.45
Orange †	94	56	77.2	11.07
Panter * † [24]	105	73	77.2	2.18
Paris †	100	52	77.4	1.02
Roby †	106	47[e]	74.5	8.68
Rockport *[1]	96	66	83.6	.....
Rock Springs †	.....	.....	.....	T.
Round Rock	102	58	81.2	1.94
San Antonio	96	59	80.3	0.72
San Marcos †	.....	.....	.....	4.47

Meteorological record of voluntary observers, &c.—Continued.

Stations.	Temperature. (Fahrenheit.) Max.	Min.	Mean	Precip'n.
Texas—Cont'd.	°	°	°	*Ins.*
Sherman	98	54	79.2	0.68
Sierra Blanca	102	50	76.3	0.00
Silver Falls	.....	.....	.....	0.28
Sugar Land †	99	58	79.5	3.17
Sulphur Springs †	102	54	80.1	1.47
Temple †	101	55	79.8	0.70
Tyler	100	46	78.6	0.87
Victoria * † [1]	93[e]	67[e]	84.8[e]	4.57
Waco †	96	56	79.6	2.34
Weatherford †	99	52	77.0	3.50
Wichita Falls †	104	52	78.6	3.12
Utah.				
Blue Creek *[8]	93	40	69.5	0.55
Castle Gate †	90	32	61.1	0.96
Cisco †	98	32	69.9	T.
Coalville †	92	25	56.4	1.46
Corinne *[8]	98	55	74.5	0.30
Deseret †	98[l]	36[h]	63.2[h]	1.29
Fillmore †	98	27	62.4	2.04
Fort Du Chesne †	90	34	66.1	0.34
Glendale *[1] †	88	33	58.9	.....
Grouse Creek * † [1]	86	34	54.7	1.01
Heber †	86	26	56.8	0.79
Kelton *[8]	96	45	64.9	1.35
Koosharem	88	25	54.4	0.38
Lake Station *[1]	90	45	63.7	.....
Levan † [2]	.....	.....	62.2	1.71
Loa †	90	24	56.4	0.19
Logan †	85	38	59.7	0.74
Lowee †	96	23	59.9	T.
Manti †	104	44	74.6	0.15
Moab †	103	38	72.0	0.24
Mount Pleasant * † [1]	90	35	59.5	0.80
Ogden *a* [8]	87	40	66.7	0.80
Ogden *b* * † [1]	89	45	69.8	0.87
Parowan †	90	28	59.5	0.57
Promontory *[8]	90	38	61.2	1.60
Provo City † [2]	.....	.....	65.0	0.50
Randolph †	86	24	54.7	0.62
Richfield †	98	32	62.4	0.91
St. George †	106	37	70.2	0.00
Scofield †	91	15	51.0	4.00
Silver Lake *[1]	72	20	46.5	1.20
Singletree * † [1]	80	28	54.6	0.65
Snowville †	85	33	58.9	1.00
Soldier Summit	85	17	53.2	0.55
Thistle †	90	28	57.0	.....
Vermont.				
Brattleboro	96	37	68.1	1.28
Burlington †	90	40	69.1	1.45
Cornwall	92	38	67.1	3.94
Enosburg Falls †	88	35	66.7	3.19
Hartland †	89	31	62.8	4.41
Irasburg †	88	30	64.4	2.46
Jacksonville	87	32	61.6	0.96
Norwich *[6]	88	40	65.8	4.38
St. Johnsbury	87	32	66.0	2.55
Simonsville	90	33	63.8	.....
Strafford * † [1]	86	38	63.8	6.15
Vernon * [2]	94	42	66.2	2.24
Wells	90	36	66.2	3.25
Woodstock	93	33	67.0	2.93
Virginia.				
Abingdon †	.....	.....	.....	3.40
Alexandria	98	47	74.3	1.05
Ashland †	96	45	72.8	0.86
Avon †	101	45	73.6	2.38
Bedford City †	94	46	73.2	1.41
Big Stone Gap †	93	33	69.4	3.70
Birdsnest * † [1]	96	56	75.5	1.95
Blacksburg	96	43	68.0	2.00
Buchanan †	.....	.....	.....	1.51
Buckingham	98	48	76.0	0.54
Cape Charles † [1]	94[e]	50	73.7	2.33
Charlottesville	100	47	75.5	1.08
Christiansburg †	.....	.....	.....	2.15
Clarksville †	.....	.....	.....	2.46
Dale Enterprise †	96	38	70.2	1.40
Danville †	.....	.....	.....	0.51
Falls Church †	.....	.....	.....	1.14
Fredericksburg †	102	41	74.0	0.84
Grahams Forge	92	38	70.6	3.20
Hampton	95	49	75.8	1.54
Hot Springs	88	33	63.9	2.43
Houston †	99	43	73.8	1.89
Irwin †	99	41	74.6	2.56
Lexington †	95	42	69.2	4.29
Marion †	91	41	68.4[e]	3.19
Nottoway	102	41	75.5	2.39
Petersburg †	97	44	75.2	1.96
Richmond † (near)	106	44	76.6	5.40
Richmond *b* †	.....	.....	.....	2.26
Rocky Mount †	98	47	75.3	1.12
Salem †	92	48	74.0	2.01
Smithville	93	53	76.4	1.62
Spottsville †	99	42	74.8	2.79
Staunton †	98	42	71.7	2.63
Stephens City †	100	43	73.7	2.57
Warrenton † [c]	98	45	71.4	2.64
Warsaw †	101	44	75.4	0.90
Whittles Depot	103	39	75.4	1.02
Wytheville †	89	44	68.8	3.33
Washington.				
Aberdeen †	86	39	56.8	3.61
Anacortes	.....	.....	.....	2.36

Stations.	Temperature. (Fahrenheit.) Max.	Min.	Mean	Precip'n.
Washington—Con.	°	°	°	*Ins.*
Blaine †	80	40	57.4	4.37
Bridgeport †	95	38	65.8	0.43
Chehalis †	86	37	58.5	3.29
Colfax †	86	34	59.8	0.56
Davenport †	84	30	57.2	0.91
Dayton	92	35	61.6	0.20
East Sound †	77	47	55.0	1.97
Ellensburg †	88	37	58.8	0.53
Ferry †	93	40	59.8	6.13
Fort Simcoe	86	.....	.....	0.33
Fort Spokane	90	37	60.5	0.35
Fort Townsend	80	33	55.5	3.20
Hunters †	86	28	54.4	1.69
Kennewick †	98	42	67.1	0.34
Lakeside †	86	41	65.6	1.20
Lapush †	80	41	56.1	3.88
Madrone * † [1]	82	43	58.2	3.37
Moxee Valley †	96	30	67.7	1.13
Olga †	78	46	57.0	2.33
Pine Hill *[1]	89	44	60.8	2.66
Pomeroy †	87	43	62.8	0.45
Pullman †	84	32	57.4	0.89
Rosalia †	85	30	56.8	0.63
Silver Creek *[1]	92	43	57.0	5.54
Snohomish † [5]	83	43	58.8	3.75
Stillaguamish †	84	40	60.8	3.35
Sulphur	100	39	66.2	0.25
Tacoma †	84	40	58.0	3.70
Union City * † [1]	84	46	58.2	3.02
Waterville †	87	31	58.4	0.66
Wenatchee Lake †	89	33	57.4	1.18
West Ferndale †	83	38	57.1	3.25
West Virginia.				
Beverly †	90	44	71.5	4.02
Bloomery †	91	44	66.5	3.11
Bluefield †	93	35	68.2	3.44
Buckhannon *a* †	.....	.....	.....	3.30
Burlington †	93	33	72.2	3.26
Central Station †	96	40	73.7	4.15
Charleston †	.....	.....	.....	2.86
Cloverdale †	.....	.....	.....	5.09
Davis †	87	37	62.1	3.90
Elkhorn †	92	38	69.4	4.65
Ella †	97	39	71.3	1.25
Fairmont †	.....	.....	.....	4.23
Glenville †	89	40	69.7	3.88
Grafton †	93	40	69.5	2.96
Harpers Ferry †	.....	.....	.....	3.13
Hinton †	.....	.....	.....	3.80
Madison †	90	53	72.3	5.19
Marlinton	100	39	66.9	2.69
Martinsburg †	95	42	70.0	2.85
Monarch * † [1]	92	46	70.2	3.11
Morgantown *a* †	.....	.....	.....	2.87
Morgantown *b*	89	37	65.6	1.70
New Martinsv'le †	95	32	70.5	2.41
Nuttallburg	98	34	69.4	2.69
Parkersburg †	92	44	71.1	6.31
Philippi †	.....	.....	.....	3.04
Point Pleasant †	97	44	74.6	2.75
Powellton	95	42	71.5	2.69
Raleigh †	90	41	67.3	1.87
Rowlesburg †	.....	.....	.....	2.80
Sandyville †	94	40	70.9	3.09
Spencer †	95	41	70.7	1.39
Tannery *[1]	94	38	71.5	.....
Weston *a* †	.....	.....	.....	3.10
Weston *b* *[1]	93	46	72.5	.....
Wheeling *a* †	.....	.....	.....	1.26
Wheeling *b* †	96	44	72.5	1.62
Wisconsin.				
Amherst	94	33	69.2	1.69
Antigo †	95	28	68.0	2.70
Baraboo †	.....	.....	.....	3.08
Barron †	96	28	67.1	2.01
Bayfield	92	32	65.6	2.90
Beaver Dam	93	39	71.4	4.55
Belleville	93	32	69.2	4.65
Beloit	96	36	72.4	2.61
Black River Falls †	98	28	65.0	2.56
Cadiz *[3]	.....	44	67.7	3.36
Centralia	95	32	70.6	1.70
Chilton	95	34	69.2	5.42
Chippewa Falls †	.....	.....	.....	3.23
City Point	93	28	67.8	3.15
Columbus	98	35	70.2	5.25
Crandon †	93	30	68.6	3.53
Delavan †	93	30	70.0	2.92
Depere †	93	36	69.2	4.55
Estella †	94	25	66.9	2.89
Florence †	91	26	64.4	5.42
Fond du Lac †	94	38	69.5	3.60
Grantsburg †	97	31	72.3	1.41
Hartford * †	.....	35	65.2	2.00
Harvey †	95	32	69.6	6.34
Hayward †	96	.....	.....	1.14
Hillsboro	93	35	68.7	4.38
Janesville	96	35	71.4	3.40
Juneau †	95	34	70.3	3.78
Kenosha *[10]	92	42	72.7	.....
Koepenick * † [1]	90	44	66.0	3.10
Lancaster †	94	38	70.9	3.06
Lincoln † [2]	.....	.....	73.4	4.92
Madison †	91	40	71.4	3.94
Manitowoc †	93	36	65.6	2.79

Meteorological record of voluntary observers, &c.—Continued.

Stations.	Temperature. (Fahrenheit.) Max.	Min.	Mean	Precip'n.	Stations.	Temperature. (Fahrenheit.) Max.	Min.	Mean	Precip'n.
Wisconsin—Cont'd.	°	°	°	*Ins.*	*Wisconsin*—Cont'd.	°	°	°	*Ins.*
Meadow Valley † ..	90	35	68.7	2.69	Westfield †	95	34	70.6	2.75
Medford †	95	31	68.3	2.59	Weston *†[3]	94	30	69.8	2.09
Menomonie	97	28	68.7	1.90	*Wyoming.*				
Neillsville †	92	30	68.0	4.38	Big Horn Ranch †..	78	31	53.7	2.43
Oconomowoc †	94	33	70.2	2.57	Camp Pilot Butte †.	86	30	61.5	0.23
Oconto	94	31	67.8	2.74	Fort McKinney	88	39	61.9	4.52
Osceola †	99	30	71.2	2.40	Fort Washakie	87	33	60.4	0.41
Pepin	95	35	72.3	1.61	Fort Yellowstone †.	85	40	58.0	3.10
Portage †	.....	.....	.....	4.71	Lander	82[5]	41[5]	60.8[2]	0.20[2]
Port Washington ..	94	34	67.2	3.99	Laramie	81	33	55.8	0.64
Prairie du Chien...	99	34	71.8	2.64	Lusk	95	42	65.6	1.44
Racine *[10]	90	40	65.5	.....	Saratoga †	83	30	56.6	0.92
Reedsburg †	94	35	70.4	4.47	Sheridan	88	38	63.0	2.44
Royalton	95	34	70.2	4.52	Wheatland †	95	41	63.9	2.17
Sharon †	93	33	71.2	6.11	*Mexico.*				
Shawano	94	30	68.2	3.10	Cuidad P. Diaz.....	99	66	84.4	0.28
Sheboygan *[10]	93	42	67.2	.....	Leon de Aldamas ..	94	57	75.2	1.14
Spooner	96	.....	.....	3.38	Mazatlan	89	74	81.5	0.92
Stevens Point †	93	32	69.5	2.26	Mexico	82	51	65.6	1.65
Sturgeon B. Canal *[10]	87	38	62.0	.....	Puebla	83	55	66.7	7.98
Two Rivers *[10]	85	40	64.4	.....	Topolobampo *[2] ...	95	75	81.8	0.24
Valley Junction †..	91	30	67.0	1.44	Vera Cruz	88	68	79.2	21.73
Viroqua	93	37	69.9	1.95	*West Indies.*				
Watertown †	96	30	70.4	3.66	Grand Turk Island.	.....	.....	.....	3.65
Waukesha †	92	35	71.0	2.33	Hamilton, Ber	81	64	74.0	2.33

Reports received too late to be used in general discussion of weather for June, 1894.

Alabama.					*Nevada.*				
Tuscumbia †	98	52	76.7	1.57	Beowawe *[6]	86	40	63.2	0.50
Arkansas.					Carlin *[2]	80	32	58.6	1.30
Luna Landing *[6] ...	98	51	74.6	0.70	Carson City	86	25	54.9	1.14
California.					Reno *[2]	85	38	61.7	0.00
Colfax *[2]	90	40	62.8	2.45	Wells *[2]	96	27	64.1	3.15
Corning *[2]	102	58	69.2	0.00	*Oregon.*				
Livingston *[2]	105	56	74.6	0.78	Junction City *[2] ...	87	48	61.4	0.83
Montague *[2]	87	48	67.3	1.04	Siskiyon *[2]	82	34	58.7	2.50
Red Bluff *[2]	100	52	73.6	1.68	West Fork *[2]	84	42	61.5	3.02
Truckee *[2]	68	26	48.2	T	*Rhode Island.*				
Vina *[2]	100	55	73.5	0.51	Bristol	.....	.....	.....	1.05
Colorado.					Providence *a*	96	48	71.4	0.56
Colbran	.....	.....	.....	0.47	*Texas.*				
Lake Moraine	94	24	48.4	2.00	Alice	109	60	88.5	1.01
Florida.					Austin *a*	98	62	81.7	1.00
Hypoluxo *[2]	90	67	77.2	.....	Eastland *[1]	105	50	82.5	5.30
Massachusetts.					Flower Bluff.....	90	65	81.2	1.60
Amherst	91	36	67.2	2.52	Golindo	.....	.....	.....	1.90
Lynn *a*	93	44	67.4	0.59	Ochiltree	.....	.....	.....	1.75
Missouri.					*Utah.*				
Fayette	100	44	78.0	4.96	Terrace *[2]	92	46	69.8	0.01
New Hampshire.					*Virginia.*				
Mine Falls	.....	.....	.....	0.56	Stanardsville	97	46	72.8	1.82
Pennichuck Station	.....	.....	.....	0.22					

Received too late for publication in May, 1894.

Arizona.					*Missouri*—Cont'd.				
Texas Hill *[2]	105	61	82.7	0.00	Miami	.....	.....	.....	2.38
California.					Unionville	96	29	64.4	2.51
Mount Frazier	.....	.....	.....	2.50	*Nevada.*				
Idaho.					Empire Ranch	94	27	58.9	0.79
Fort Lemhi	88	18	56.0	0.71	*Oklahoma.*				
Indiana.					Keokuk Falls	91	.....	.....	1.85
Butlerville	88	35	62.0	5.85	*South Dakota.*				
Kansas.					Watertown	96	28	56.8	.....
Grainfield *[2]	94	48	69.4	1.40	Yankton †	93	35	62.6	1.72
Phillipsburg	96	34	62.5	.....	*Texas.*				
Massachusetts.					Albany *[1]	93	48	73.7	5.47
Cambridge *b*	86	38	57.4	4.63	Flower Bluff.....	87	64	78.4	1.91
Lowell *c*	91	35	59.0	.....	*Utah.*				
Lynn *a*	85	38	57.4	4.91	Soldier Summit † ..	73	12	42.4	0.45
Michigan.					*West Virginia.*				
Muskegon *[10]	78	37	54.2	.....	Buchannon *b*	85	34	61.0	.....
Missouri.					*Wyoming.*				
Gayoso *[2 †]	.....	40	66.2	4.76	Wheatland	.....	.....	.....	0.00

EXPLANATION OF SIGNS.

*Extremes of temperature from observed readings of dry thermometer.

† Weather Bureau instruments.

A numeral following the name of a station indicates the hours of observation from which the mean temperature was obtained, thus:

[1] Mean of 7 a. m. + 2 p. m. + 9 p. m. + 9 p. m. + 4.
[2] Mean of 8 a. m. + 8 p. m. + 2.
[3] Mean of 7 a. m. + 7 p. m. + 2.
[4] Mean of 6 a. m. + 6 p. m. + 2.
[5] Mean of 7 a. m. + 2 p. m. + 2.
[6] Mean from readings at various hours reduced to true daily mean by special tables.
[7] Mean from hourly readings of thermograph.
[8] Mean of 7 a. m. + 2 p. m. + 9 p. m. + 3.
[9] Mean of sunrise and noon.
[10] Mean of sunrise, noon, sunset, and midnight.

The absence of a numeral indicates that the mean temperature has been obtained from daily readings of the maximum and minimum thermometers.

An Italic letter following the name of a station, as "Livingston *a*," "Livingston *b*," indicates that two or more observers, as the case may be, are reporting from the same station. A small Roman letter following the name of a station, or in figure columns, indicates the number of days missing from the record; for instance, "[a]" denotes 14 days missing.

No note is made of breaks in the continuity of temperature records when the same do not exceed two days. All known breaks, of whatever duration, in the precipitation record receive appropriate notice.

Corrections: Florida, Merritt's Island, April, 1894, mean temperature should be 72.8 instead of 82.8. Massachusetts, May, 1894, Lowell *c* should read Lowell *b*. Virginia, Richmond *a*, May, 1894, precipitation should be 6.65 instead of 6.70. Wisconsin, Westfield, May, 1894, precipation should be 5.43 instead of 4.58. Annual summary for 1893, page 382, under Illinois, make Olney *a* read 55.1, 97, −14, 43.06; make Olney *b* read 50.8, 100, −17, 47.90.

NOTE.—The following changes have been made in names of stations: Virginia, Richmond (*a*), changed to Richmond (near).

TABLE III—*Data from Canadian stations for the month of June*, 1894.

Station.	Pressure. Mean not reduced.	Mean reduced.	Departure from normal.	Temperature. Mean.	Departure from normal.	Precipitation. Total.	Departure from normal.	Prevailing direction of wind.
	Inches.	*Inches.*	*Inches.*	°	°	*Inches.*	*Inches.*	
St. Johns, N. F.	.....	.....	.....	.....	.....	.....	.....	.....
Sydney, N. S	29.90	29.96	+ .03	55.6	+ 1.1	3.36	− 0.33	sw.
Grindstone, G. St. L....	29.84	29.87	.....	52.8	.....	2.46	.....	sw.
Sandy Point, N. F.	.....	.....	.....	.....	.....	.....	.....	.....
Halifax, N. S	29.85	29.98	+ .04	56.6	− 0.9	3.78	− 0.12	s.
Grand Manan, N. B.....	29.90	29.95	.....	53.5	.....	3.95	+ 1.65	se.
Yarmouth, N. S	29.89	29.97	+ .04	54.0	− 1.0	3.07	+ 0.93	s.
Saint Andrews, N. B	29.86	29.91	.....	55.2	.....	2.58	− 0.49	se.
Charlottetown, P. E. I ..	29.88	29.92	.....	58.5	.....	2.69	− 0.06	w.
Chatham, N. B	29.88	29.90	.00	60.8	+ 2.8	3.57	− 0.72	w.
Father Point, Que	29.84	29.87	+ .01	53.7	+ 0.7	2.22	− 0.47	w.
Quebec, Que	29.56	29.88	− .01	61.8	+ 1.3	5.54	+ 2.27	w.
Montreal, Que	29.70	29.90	.00	65.3	+ 0.8	3.95	+ 0.76	sw.
Rockliffe, Ont.....	29.38	29.88	− .02	62.9	+ 4.9	3.92	+ 1.17	nw.
Kingston, Ont.....	29.60	29.91	− .03	62.5	+ 0.5	2.11	− 0.29	sw.
Toronto, Ont	29.58	29.95	− .01	65.9	+ 4.4	1.38	− 1.34	w.
White River, Ont.....	28.62	29.93	.....	62.2	+ 1.8	1.08	− 0.89	w.
Port Stanley, Ont	29.36	29.98	+ .03	65.4	.....	0.89	− 2.13	nw.
Saugeen, Ont	29.24	29.94	.00	62.2	+ 4.2	1.60	− 0.77	w.
Parry Sound, Ont.....	29.26	29.94	+ .01	63.0	+ 4.0	2.71	+ 0.50	w.
Port Arthur, Ont	29.21	29.89	− .02	59.4	+ 3.4	1.16	− 1.65	ne.
Winnipeg, Man.....	29.02	29.81	− .04	68.8	+ 7.3	2.40	− 1.44	s.
Minnedosa, Man.....	28.04	29.78	− .04	66.2	+ 6.7	3.10	− 0.69	w.
Qu'Appelle, Assiniboia..	27.57	29.75	− .07	63.4	+ 2.4	1.46	− 0.27	s.
Medicine Hat, Assiniboia	27.52	29.70	− .03	63.0	− 0.5	3.45	+ 0.42	sw.
Swift Current, Assiniboia	27.28	29.78	− .04	63.8	+ 5.8	1.35	− 2.20	w.
Calgary, Alberta	26.29	29.76	− .09	56.0	+ 0.5	1.10	− 1.24	nw.
Prince Albert, Sask.....	28.28	29.75	.....	61.5	.....	1.48	.....	nw.
Edmonton, Alberta	27.49	29.78	− .04	58.4	+ 1.9	3.55	+ 1.36	nw.
Battleford, Saskatchew'n	28.04	29.72	.....	62.4	.....	3.59	.....	se.
Spences Bridge, B. C	29.05	29.85	.....	65.6	.....	1.52	.....	sw.
Hamilton, Bermuda	30.07	30.23	+ .11	73.8	.....	3.04	.....	s.
Anticosti, G. St. L	29.82	29.85	+ .01	51.8	+ 0.6	1.05	.....	se.
Esquimault, B. C.....	29.94	29.97	.....	54.6	.....	1.84	.....	s.
May, 1894.								
St. Johns, N. F.	29.82	29.97	+ .02	38.6	− 5.8	2.57	.....	ne.
Sable Island	29.96	.....	.....	41.8	.....	1.89	.....	sw.

TABLE IV *a.*—*Hourly sunshine as deduced from sunshine recorders, June,* 1894.

Station.	Instrument.	Percentage for each hour of local mean time ending with the respective hour.																Monthly summary.			
		A. M.								P. M.								Instrumental record.			Personal estimate.
		5	6	7	8	9	10	11	Noon.	1	2	3	4	5	6	7	8	Actual.	Possible.	Per cent of possible.	
																		Hours.	*Hours.*		
Baltimore, Md	T.	47	53	58	81	87	89	90	90	90	95	97	95	84	75	56	46	354·8	445·4	80	66
Bismarck, N. Dak	P.	70	69	69	68	78	79	81	80	76	75	73	71	72	63	65	60	341·6	476·0	72	67
Boston, Mass	T.	21	41	56	60	67	76	76	80	78	84	82	75	64	46	42	21	286·1	459·4	62	40
Buffalo, N. Y	T.	13	13	34	64	82	82	87	88	85	85	82	82	76	67	41	16	296·0	459·6	64	52
Chicago, Ill	T.	47	56	59	68	84	94	96	87	83	82	80	75	68	45	46	50	323·9	454·9	71	58
Cincinnati, Ohio	P.	62	70	81	84	88	94	92	89	89	87	83	75	70	72	59	41	350·4	444·9	79	57
Cleveland, Ohio	P.	55	48	55	70	77	79	82	71	76	85	86	80	79	73	68	62	328·3	454·5	72	58
Colorado Springs, Colo.	T.	68	75	82	90	90	88	90	86	90	76	76	70	56	42	42	58	332·3	446·0	75	61
Columbus, Ohio	T.	62	64	71	74	83	93	93	97	96	90	89	85	75	69	38	22	347·2	448·9	77	56
Denver, Colo	P.	78	82	85	91	90	93	92	90	84	78	74	62	49	50	62	58	344·1	446·6	77	66
Des Moines, Iowa	T.	74	72	74	82	86	88	87	85	85	87	79	78	70	65	61	54	351·5	455·2	77	68
Detroit, Mich	T.	36	36	45	70	87	90	90	95	95	96	94	96	84	61	37	38	336·3	455·7	74	61
Dodge City, Kans	P.	50	64	73	84	83	86	88	84	82	77	81	85	81	73	57	35	338·7	441·8	77	63
Eastport, Me	P.	10	11	19	20	24	31	37	43	49	49	46	50	43	34	13	7	145·1	466·7	31	29
Galveston, Tex.	P.	.....	44	69	74	76	78	74	73	74	78	81	81	75	70	.....		307·7	419·5	73	72
Helena, Mont	P.	39	46	56	65	66	68	68	62	63	51	38	38	37	27	27	25	230·5	475·0	49	45
Kansas City, Mo	P.	67	73	66	82	79	83	84	86	85	83	82	84	74	67	61	54	343·0	445·5	77	67
Key West, Fla	T.	.....	44	49	50	57	65	78	76	71	77	67	62	57	50	44	.....	249·7	410·4	61	33
Little Rock, Ark	T.	67	70	70	71	85	92	96	93	96	94	88	83	67	59	57	58	345·3	434·4	80	61
Louisville, Ky	T.	67	80	88	94	100	99	96	89	85	77	76	69	57	48	46	54	345·3	445·4	78	56
Memphis, Tenn	P.	48	58	67	82	85	96	96	95	95	90	85	78	76	66	51	46	342·7	434·5	79	80
New Haven, Conn	T.	11	17	39	60	66	82	89	90	87	90	89	85	73	65	33	15	293·6	452·5	65	49
New Orleans, La	T.	.....	20	26	55	83	86	77	70	59	67	70	67	54	42	36	.....	243·4	419·0	58	59
New York, N. Y.	T.	11	14	37	55	59	77	84	87	78	80	74	75	73	47	15	12	259·6	451·9	57	51
Philadelphia, Pa	T.	51	57	67	71	74	84	88	84	81	88	84	84	71	61	58	38	328·4	448·9	73	55
Portland, Me	T.	6	19	49	60	78	90	96	89	93	93	91	84	76	71	42	15	313·7	459·0	68	33
Portland, Oreg	P.	11	14	28	38	40	42	43	41	42	48	45	42	35	33	28	21	163·3	466·9	35	31
Rochester, N. Y	T.	24	23	26	35	53	60	70	66	75	73	72	58	50	44	28	26	230·5	458·5	50	51
St. Louis, Mo	T.	70	79	85	87	88	92	97	97	97	94	93	97	99	100	87	53	402·8	443·1	91	73
Salt Lake City, Utah	T.	67	60	61	69	75	79	79	89	89	87	78	75	79	65	47	43	326·6	451·5	72	58
San Diego, Cal	P.	14	10	19	29	58	79	83	85	88	88	90	90	79	71	47	17	275·9	428·0	64	74
San Francisco, Cal	P.	18	22	37	50	53	63	69	74	76	80	88	87	76	68	50	42	274·4	443·2	62	56
Santa Fe, N. Mex	P.	62	75	88	93	95	95	93	95	97	88	86	91	92	87	75	50	384·2	434·4	88	81
Savannah, Ga	P.	40	33	60	75	82	85	83	69	72	71	68	61	63	49	32	13	272·9	429·0	64	56
Tucson, Ariz *	P.	96	95	99	99	100	100	100	100	100	100	99	100	99	97	96	100	364·5	368.6	99	92
Vicksburg, Miss	T.	31	30	35	58	81	86	92	91	90	89	89	77	70	54	37	46	296·4	427·8	69	65
Washington, D. C	P.	46	50	68	81	84	80	81	84	88	89	90	87	73	57	44	46	328·2	444·8	74	69
Wilmington, N. C	T.	68	60	60	60	73	77	70	71	73	72	70	69	57	57	57	44	284·9	434·2	66	60

*Record for 26 days only.

TABLE IV *b.*—*Hourly precipitation, June,* 1894.

Station.	1 a. m.	2 a. m.	3 a. m.	4 a. m.	5 a. m.	6 a. m.	7 a. m.	8 a. m.	9 a. m.	10 a. m.	11 a. m.	Noon.	1 p. m.	2 p. m.	3 p. m.	4 p. m.	5 p. m.	6 p. m.	7 p. m.	8 p. m.	9 p. m.	10 p. m.	11 p. m.	Midnight.	Total.
Atlanta, Ga	0.00	0.00	T.	T.	T.	T.	0.01	0.01	0.17	0.00	0.00	0.00	0.00	0.00	T.	0.05	0.57	0.19	0.07	0.03	0.01	0.05	0.05	0.07	1.28
Baltimore, Md	0.09	0.21	0.03	0.03	0.01	0.04	0.33	T.	0.04	0.12	0.10	0.10	0.12	0.15	0.05	0.05	0.62	0.63	0.07	0.10	0.01	0.02	0.20	0.16	3.29
Bismarck, N. Dak	0.06	0.03	0.01	0.25	0.11	0.04	0.02	0.05	0.03	0.02	0.01	0.10	0.01	0.04	0.08	0.15	T.	0.06	0.00	0.11	0.20	0.21	0.10	T.	1.72
Boston, Mass	0.04	T.	0.05	0.02	T.	T.	0.00	0.00	0.00	0.00	T.	0.00	T.	0.30	0.15	T.	0.00	0.01	T.	0.04	0.05	0.01	T.	T.	0.67
Buffalo, N. Y.*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Chicago, Ill	0.07	0.05	0.37	0.10	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.24	0.03	0.03	0.27	0.14	0.08	0.35	0.04	0.01	0.00	0.00	0.00	1.79
Cincinnati, Ohio	0.66	0.32	0.05	0.05	0.33	T.	T.	T.	T.	T.	T.	T.	0.25	0.19	0.15	0.22	0.04	0.54	0.02	0.02	0.03	0.75	0.31	0.11	4.04
Cleveland, Ohio	0.15	T.	T.	0.00	0.00	0.00	T.	0.06	T.	T.	0.00	T.	T.	T.	T.	0.42	0.07	0.36	0.03	0.02	0.38	0.22	0.23	0.34	2.25
Denver, Colo	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	T.	T.	0.00	0.00	0.03	0.02	0.01	T.	0.00	0.17	0.06	0.01	0.02	0.37
Detroit, Mich	0.22	0.67	0.01	0.00	0.00	0.00	0.00	T.	0.03	0.12	T.	0.05	0.05	T.	T.	0.00	0.00	0.90	0.24	0.02	0.25	0.04	0.01	0.01	2.63
Dodge City, Kans	0.03	0.27	0.02	0.02	0.14	T.	T.	T.	T.	0.00	0.00	0.00	0.00	0.00	T.	0.31	0.37	T.	T.	0.13	1.22	0.23	T.	0.02	2.80
Duluth, Minn	0.05	T.	0.23	0.00	T.	0.02	0.06	0.07	0.05	0.04	0.04	T.	T.	T.	0.02	0.03	0.24	0.05	0.25	0.02	0.17	0.07	0.06	0.27	1.74
Eastport, Me	0.07	0.38	0.22	0.21	0.17	0.06	0.08	0.81	0.49	0.23	0.03	0.03	0.06	0.08	0.06	0.12	0.17	0.03	0.02	0.03	0.00	0.00	0.01	0.01	3.37
Galveston, Tex	0.00	0.02	0.17	0.12	1.89	0.63	0.72	0.95	0.14	0.91	0.09	1.22	0.70	0.19	0.12	0.65	0.27	0.23	0.25	0.26	0.29	0.52	0.01	0.01	10.36
Indianapolis, Ind	T.	0.00	0.12	0.03	T.	0.01	0.03	T.	0.00	0.00	0.01	0.23	0.01	0.67	1.14	0.04	0.03	0.25	0.65	0.30	0.11	0.06	0.06	0.01	3.76
Jacksonville, Fla	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.01	1.19	0.06	0.41	0.80	0.80	0.92	0.24	0.17	0.05	0.06	0.02	0.00	4.75
Jupiter, Fla	T.	0.05	0.05	0.00	0.02	T.	0.00	0.05	0.25	0.15	0.17	0.33	0.11	0.19	0.99	0.91	0.05	0.00	T.	0.00	0.00	0.60	0.25	0.05	4.22
Kansas City, Mo	0.42	0.35	0.89	0.34	0.54	0.33	0.07	T.	0.04	0.11	0.05	0.05	0.02	0.02	0.04	0.39	0.95	1.32	1.43	0.21	0.11	0.21	0.21	0.06	8.16
Key West, Fla	0.01	0.03	T.	0.12	0.02	0.00	0.00	T.	0.18	0.17	0.11	0.05	0.08	0.04	0.01	T.	T.	0.13	0.01	0.59	0.16	0.11	1.07	0.04	3.27
Marquette, Mich	T.	T.	0.04	0.06	0.37	0.10	0.03	0.05	0.01	0.18	0.05	0.17	T.	0.05	0.46	0.04	0.03	0.12	0.01	0.13	0.00	0.00	0.00	0.00	1.90
Memphis, Tenn	0.81	0.20	0.10	0.01	0.00	0.00	T.	T.	T.	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	T.	1.26	0.07	T.	0.05	0.02	0.06	2.60
Milwaukee, Wis	0.16	0.06	0.05	0.01	0.01	T.	0.01	0.00	0.01	0.04	0.00	T.	0.73	0.15	0.07	0.55	0.15	0.07	0.12	0.07	0.18	0.09	0.25	0.83	3.41
Nantucket, Mass	0.08	0.02	0.09	0.11	0.06	0.10	0.05	0.06	0.02	0.03	T.	0.01	0.01	0.02	0.02	0.02	0.02	0.03	0.02	0.02	0.01	T.	0.01	T.	0.81
Nashville, Tenn	0.00	0.01	0.10	0.14	0.15	0.14	0.03	0.07	T.	0.02	0.01	0.03	0.00	0.00	0.00	0.07	0.89	0.50	0.23	0.50	0.63	0.00	0.00	T.	3.52
New Orleans, La	0.00	T.	T.	0.20	T.	T.	T.	0.02	0.00	0.05	0.01	1.05	0.87	1.65	0.41	0.59	0.13	0.07	0.00	0.03	0.01	0.02	0.02	0.00	5.19
New York, N. Y	0.03	0.08	0.07	0.00	0.00	T.	0.10	0.03	T.	T.	T.	T.	0.05	0.08	0.03	0.08	0.11	0.02	T.	0.01	0.03	0.02	0.02	0.02	0.78
Norfolk, Va	0.46	0.08	0.10	0.17	T.	0.00	0.00	0.00	0.00	0.00	0.00	T.	T.	0.07	0.04	0.01	1.55	0.05	0.19	0.10	0.04	0.15	0.05	0.06	3.12
Omaha, Nebr	0.15	0.04	0.03	0.04	0.18	0.08	0.07	0.37	0.17	0.20	0.60	0.13	0.04	0.02	T.	0.09	0.00	T.	0.00	0.31	0.41	0.34	0.78	0.15	4.68
Philadelphia, Pa	0.04	0.05	0.03	0.12	0.00	0.06	0.09	0.11	0.09	0.16	0.12	0.04	0.05	0.02	0.17	0.08	0.05	0.03	0.05	0.11	0.02	0.02	0.05	0.05	1.61
Pittsburg, Pa	0.00	0.00	0.00	0.00	0.00	0.01	T.	T.	0.02	0.01	0.01	0.01	0.00	0.01	0.03	0.01	0.00	0.00	0.15	0.10	0.16	0.07	T.	T.	0.45
Portland, Me	0.07	0.09	0.11	0.06	0.02	0.00	0.00	0.00	0.00	0.00	T.	0.02	T.	0.03	0.65	T.	0.36	T.	0.04	0.31	0.01	0.05	0.06	0.10	1.98
Portland, Oreg	0.02	0.03	0.01	0.03	0.04	0.07	0.12	0.07	0.12	0.08	0.10	0.08	0.06	0.09	0.08	0.11	0.29	0.24	0.07	0.32	0.05	0.00	0.00	0.00	2.16
Rochester, N. Y	0.03	0.03	0.03	0.04	0.04	0.04	0.07	0.08	0.06	0.14	0.09	0.48	0.05	0.06	0.03	0.25	0.05	0.50	0.35	0.41	0.08	0.24	0.03	T.	2.98
St. Louis, Mo. *	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
St. Paul, Minn. *	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Salt Lake City, Utah	0.01	0.04	0.09	0.09	T.	0.02	0.05	0.02	0.01	T.	0.01	T.	0.10	0.16	0.10	0.05	0.01	0.01	T.	0.12	0.21	0.13	0.08	0.07	1.29
San Diego, Cal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	T.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
San Francisco, Cal	0.02	0.02	0.02	0.01	0.02	0.02	0.02	0.02	0.06	0.08	0.08	0.01	0.01	0.00	T.	0.01	0.05	0.07	0.01	0.01	0.01	T.	T.	T.	0.56
Savannah, Ga	0.11	0.00	0.00	0.00	0.00	0.07	0.07	0.01	0.14	0.02	0.03	0.12	0.94	0.13	0.06	T.	0.59	0.57	0.10	0.01	T.	0.01	0.01	T.	2.97
Seattle, Wash	0.31	0.26	0.17	0.13	0.04	0.03	0.01	T.	0.08	0.05	0.02	0.03	0.05	0.11	0.04	0.04	0.07	0.12	0.18	0.14	0.04	0.04	0.24	0.22	2.45
Vicksburg, Miss	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	T.	0.00	0.00	0.00	T.	0.02	T.	0.01	0.05	0.75	T.	0.06	0.02	0.00	0.00	0.91
Washington, D.C	T.	T.	0.08	0.01	T.	T.	T.	T.	0.02	0.12	T.	0.23	0.30	0.12	0.04	0.01	0.21	0.00	T.	0.01	T.	0.00	T.	T.	1.15
Wilmington, N.C	0.11	0.01	0.03	0.07	0.15	0.16	0.02	T.	0.39	0.20	0.06	0.03	0.25	0.05	0.04	0.08	0.01	0.08	0.16	0.38	0.03	0.18	0.35	0.16	3.08

*Records incomplete.

TABLE V.—*Mean temperature for each hour of seventy-fifth meridian time, June, 1894.*

Stations.	1 a. m.	2 a. m.	3 a. m.	4 a. m.	5 a. m.	6 a. m.	7 a. m.	8 a. m.	9 a. m.	10 a. m.	11 a. m.	Noon.	1 p. m.	2 p. m.	3 p. m.	4 p. m.	5 p. m.	6 p. m.	7 p. m.	8 p. m.	9 p. m.	10 p. m.	11 p. m.	Midnight.	Mean.
Abilene, Tex	74.4	73.0	72.0	71.1	69.8	69.3	68.7	69.6	71.4	73.3	75.7	78.1	80.4	82.5	84.5	85.7	86.1	85.2	85.4	84.4	81.9	78.4	77.0	75.9	77.2
Albany, N. Y	63.9	63.3	63.1	62.6	62.1	62.5	64.8	67.1	68.9	70.9	73.5	74.8	75.5	76.2	75.9	75.6	74.5	73.3	71.1	69.9	68.1	66.9	66.0	65.3	69.0
Alpena, Mich	59.0	58.5	57.6	57.0	56.5	56.9	59.1	61.9	66.7	68.5	67.7	68.0	68.1	68.0	66.9	67.0	67.8	67.3	66.2	64.3	63.0	61.8	61.0	60.1	63.2
Amarillo, Tex	67.3	66.3	65.7	65.1	64.5	64.3	63.8	64.2	66.2	68.8	67.7	71.0	72.9	76.7	78.3	79.8	80.5	80.4	79.7	78.4	74.9	72.4	70.5	69.0	71.5
Atlanta, Ga	71.4	70.3	69.5	68.5	67.7	66.9	67.5	70.8	73.2	75.6	78.8	81.4	83.8	86.8	86.9	86.4	85.8	83.7	81.4	79.2	77.6	76.3	74.6	73.5	76.2
Augusta, Ga	70.9	70.0	69.3	68.2	67.7	67.4	69.3	72.4	75.6	78.8	81.4	83.8	85.5	86.8	86.9	86.4	85.8	84.7	83.4	82.1	80.4	78.5	76.3	74.8	76.9
Baker City, Oreg	53.2	52.0	50.8	49.7	49.0	48.1	47.4	47.4	49.3	51.9	55.0	57.0	59.1	61.3	62.4	63.9	64.7	64.2	64.3	64.3	63.0	61.8	61.0	59.1	62.2
Baltimore, Md	67.9	66.9	66.1	65.3	64.7	65.3	67.5	70.6	72.8	74.7	76.3	78.0	79.3	80.1	80.9	81.1	79.5	78.1	76.5	74.8	73.4	71.9	70.3	69.5	73.0
Bismarck, N. Dak																									
Boston, Mass	63.9	62.6	61.9	61.2	61.1	61.7	63.4	65.9	68.5	70.5	72.6	74.1	74.7	75.1	75.1	74.3	73.9	72.2	70.5	68.7	67.7	66.4	65.3	64.5	68.1
Buffalo, N. Y	63.5	63.2	62.9	62.5	62.1	62.6	63.5	64.4	65.4	66.2	67.0	68.1	68.6	68.7	69.2	69.2	69.0	68.5	67.8	67.0	66.5	65.8	65.3	64.9	65.9
Charleston, S. C	73.2	72.9	72.5	72.0	71.5	71.1	72.5	74.9	76.5	78.8	79.9	80.1	81.0	81.2	80.3	80.3	79.4	78.3	77.1	75.7	75.1	74.7	73.3	73.8	76.2
Charlotte, N. C	69.5	68.4	67.4	66.4	66.0	65.9	67.5	70.7	73.2	76.3	78.7	80.7	82.4	83.8	83.5	82.6	81.8	80.4	78.6	76.6	74.9	73.2	71.8	70.8	74.6
Cheyenne, Wyo	56.5	55.1	53.8	52.7	51.4	50.5	49.6	50.8	54.8	58.4	62.3	67.4	69.2	70.0	71.2	72.0	72.1	71.2	70.4	69.2	66.5	63.3	60.2	58.1	62.0
Chicago, Ill	67.5	66.7	66.3	65.8	65.0	65.1	65.9	68.1	70.5	72.7	74.0	74.9	75.1	75.4	75.5	74.8	74.3	73.5	71.7	70.7	69.5	67.1	66.9	64.8	71.0
Cincinnati, Ohio	69.4	68.7	67.9	67.1	66.3	66.1	66.6	69.8	72.5	75.4	78.2	80.0	81.2	81.3	82.1	82.1	81.9	81.0	79.0	77.4	74.9	76.2	74.3	72.5	74.7
Cleveland, Ohio	64.7	64.0	63.1	62.4	61.7	61.1	62.5	66.5	68.7	70.7	72.9	73.6	74.5	74.0	74.7	74.7	75.0	73.6	74.2	73.0	70.8	69.3	68.3	67.0	70.6
Colorado Sp'ngs, Colo.	56.9	55.5	55.4	54.4	53.4	51.9	50.8	50.8	53.5	57.9	61.4	63.9	66.3	68.5	70.0	71.4	71.5	72.6	73.0	72.0	70.4	67.7	66.5	65.6	68.6
Columbus, Ohio	67.1	66.4	65.5	64.2	63.3	62.9	64.6	67.7	70.8	74.2	76.8	78.7	80.7	81.5	82.1	82.1	81.6	80.3	78.6	76.7	74.2	71.5	69.8	68.4	73.5
Denver, Colo	62.3	60.8	59.1	58.2	56.9	56.2	54.9	56.1	59.6	61.4	64.3	66.9	68.9	70.6	72.0	72.1	72.1	72.3	72.0	70.4	69.2	66.5	64.6	63.3	67.3
Des Moines, Iowa	70.4	68.7	67.4	66.3	65.4	64.6	64.6	67.1	69.9	72.5	75.4	77.4	78.9	79.2	79.5	79.4	78.9	78.0	76.4	74.9	73.2	71.7	70.7	69.5	74.7
Detroit, Mich	64.9	64.3	63.9	63.3	62.6	62.5	63.7	66.0	68.7	71.7	74.1	76.0	77.4	78.1	79.2	79.7	78.6	77.4	76.1	74.8	73.4	72.1	70.6	69.4	72.6
Dodge City, Kans	65.6	65.0	63.8	62.9	61.8	61.2	61.4	63.0	65.3	67.2	68.8	70.3	71.7	72.8	73.3	73.4	72.8	71.6	70.4	69.2	67.7	66.2	64.8	63.6	67.6
Duluth, Minn	59.3	58.9	58.4	57.7	57.4	56.4	57.4	59.6	61.4	63.0	64.5	65.7	67.6	68.1	68.7	68.8	69.0	68.7	67.6	66.8	64.8	63.2	61.3	59.9	63.0
Eastport, Me	48.7	48.4	48.0	47.7	48.0	48.7	49.6	51.6	53.0	53.9	55.1	55.4	55.8	55.9	56.0	56.0	54.5	54.0	53.2	52.0	50.9	49.9	49.4	49.4	51.6
El Paso, Tex	75.9	74.1	72.5	70.9	69.9	68.8	68.3	67.2	67.4	70.9	75.3	79.5	82.6	85.1	85.8	89.4	91.0	92.1	92.6	92.8	91.6	89.6	85.1	81.1	78.6
Fort Smith, Ark	70.9	69.4	67.9	66.9	66.1	65.1	65.8	67.2	71.3	73.3	76.2	79.0	80.7	84.2	85.8	86.7	86.2	85.9	84.4	83.8	82.6	79.8	77.4	75.5	73.3
Galveston, Tex	77.5	77.4	77.2	77.2	76.9	76.8	76.6	77.5	78.0	78.6	79.0	79.0	78.9	79.2	79.5	79.9	79.6	79.6	79.6	78.9	78.2	78.0	77.9	77.9	78.3
Grand Haven, Mich	63.5	63.0	61.9	61.7	61.7	61.1	60.8	62.4	64.8	66.2	67.2	67.8	68.5	69.1	69.6	69.9	70.5	71.2	71.1	70.8	69.0	67.7	67.0	66.0	66.5
Havre, Mont	57.7	56.8	55.5	54.8	53.6	52.4	52.7	54.6	58.1	60.7	63.6	65.8	67.8	68.8	70.3	71.2	72.1	72.1	71.1	70.1	68.3	64.8	61.8	59.0	62.7
Helena, Mont	56.1	53.9	53.5	52.5	51.5	50.9	50.2	51.1	53.8	55.8	57.5	59.4	61.5	63.5	65.3	66.0	65.7	65.2	64.1	63.3	61.3	59.9	57.9	56.3	58.2
Huron, S. Dak	64.4	62.6	60.9	59.1	57.7	56.4	58.2	62.9	67.9	71.9	75.3	77.9	79.8	80.5	82.0	82.9	81.7	81.4	80.2	78.6	77.8	74.8	71.4	68.2	71.0
Indianapolis, Ind	68.2	67.0	65.3	64.4	63.8	63.7	66.6	70.6	73.1	76.9	80.3	82.8	83.7	83.9	84.3	84.4	82.9	81.7	80.5	78.8	77.5	76.0	74.3	72.8	74.8
Jacksonville, Fla	73.4	72.8	72.2	72.0	71.5	71.6	73.4	76.0	78.1	80.3	81.7	82.8	83.1	83.1	82.8	82.1	81.3	80.0	78.5	77.5	75.3	74.9	74.3	73.9	76.9
Kansas City, Mo	71.4	70.6	69.9	69.2	68.4	67.8	67.5	68.6	71.3	73.7	76.6	78.6	80.2	81.4	81.9	82.4	82.0	81.5	81.0	80.3	77.5	75.9	73.8	73.6	75.2
Key West, Fla	78.3	78.1	78.2	78.1	78.4	78.4	79.0	80.3	81.2	81.7	82.8	83.0	83.1	82.8	82.5	82.4	81.9	82.0	81.5	80.3	79.4	78.9	79.0	78.6	80.2
Knoxville, Tenn	68.8	67.6	66.6	65.8	65.2	64.9	64.9	66.0	68.3	71.4	74.4	76.8	78.8	80.7	82.1	82.4	82.4	82.0	81.5	80.3	77.5	75.4	73.4	72.0	74.0
Lander, Wyo	56.6	54.1	53.8	52.2	50.2	49.0	48.0	48.0	51.1	53.8	57.3	61.7	64.9	67.0	69.3	70.5	71.2	72.6	73.8	73.2	72.0	70.2	69.4	68.6	70.9
Little Rock, Ark	71.6	70.0	69.8	68.9	68.2	67.4	66.6	68.0	70.6	73.2	76.0	78.4	80.4	82.0	83.1	83.1	82.4	81.9	81.2	80.3	79.4	78.6	77.0	75.5	77.7
Louisville, Ky	70.2	69.2	68.4	67.7	66.9	66.6	67.8	68.6	71.1	73.7	76.8	78.7	80.4	82.1	83.1	83.1	82.4	81.9	81.2	80.3	79.4	78.6	77.2	75.6	77.5
Lynchburg, Va	67.8	66.8	65.9	65.1	64.2	64.3	64.3	65.4	67.6	70.6	73.3	75.9	77.9	79.2	79.5	79.8	78.4	78.5	77.5	75.5	74.5	72.0	68.6	66.1	69.6
Marquette, Mich	61.1	60.6	60.9	60.1	59.4	59.2	60.3	61.8	64.1	67.6	70.6	73.3	74.9	76.2	77.0	77.8	76.9	75.6	74.5	73.1	71.9	70.1	68.6	67.1	70.3
Memphis, Tenn	72.0	71.2	70.7	70.0	69.2	68.8	68.3	69.2	71.4	73.7	76.4	78.6	80.3	81.7	82.4	82.6	82.0	81.2	80.3	79.4	78.4	77.5	75.9	74.4	76.3
Milwaukee, Wis	64.0	63.8	63.2	62.6	62.1	61.8	62.0	64.8	67.6	70.5	73.2	75.3	76.9	78.1	78.7	78.5	77.8	76.9	75.8	74.6	73.2	71.8	70.4	69.2	71.7
Montgomery, Ala	73.6	72.3	71.5	70.6	69.6	69.6	69.6	71.7	74.8	77.6	80.3	82.9	85.8	87.0	87.9	88.4	88.2	86.8	86.5	84.6	82.2	80.5	78.5	76.8	79.4
Moorhead, Minn	62.5	61.0	60.5	59.5	58.8	58.3	58.3	60.5	64.1	67.6	70.6	73.3	75.9	77.9	79.2	79.5	78.9	77.9	77.5	75.5	73.1	71.0	69.9	68.9	70.0
Nantucket, Mass	57.9	57.5	57.3	57.5	57.4	58.1	58.1	59.4	61.3	63.5	65.4	67.0	68.2	69.2	69.6	69.5	68.6	67.5	66.5	65.4	64.2	63.2	62.4	61.5	63.6
Nashville, Tenn	70.4	69.4	68.1	67.1	66.5	66.1	67.3	70.2	73.4	76.4	78.8	80.4	81.5	82.1	82.4	82.4	82.0	81.3	80.2	78.6	77.5	75.9	74.3	73.1	74.6
New Haven, Conn	62.2	61.6	61.0	60.3	60.4	61.4	63.5	66.4	68.1	69.7	71.4	73.2	74.1	74.5	75.1	75.9	76.3	76.2	75.1	73.8	72.5	71.7	70.8	69.9	72.7
New Orleans, La	74.2	73.6	73.4	73.0	72.8	72.9	73.5	75.5	76.8	78.1	79.7	80.4	82.1	83.6	83.2	82.4	81.3	79.0	77.2	74.6	71.7	69.7	68.2	66.8	74.1
New York, N. Y	65.5	64.9	64.4	64.0	63.9	63.9	65.4	69.1	71.6	73.9	76.5	78.3	79.9	81.0	81.2	81.5	82.4	83.1	83.0	82.1	80.9	79.3	77.7	76.3	78.1
Norfolk, Va	68.6	68.4	68.0	67.7	67.3	67.5	67.5	67.9	69.1	71.6	73.9	76.0	77.6	78.4	78.4	79.1	79.5	79.8	78.4	78.5	77.5	75.5	74.1	73.1	75.2
North Platte, Nebr.*	63.0	61.3	60.1	59.2	58.4	57.5	57.9	60.0	62.8	64.1	67.3	70.6	73.9	76.2	76.9	76.9	76.2	75.7	74.6	73.2	71.6	70.2	68.8	67.7	70.4
Omaha, Nebr	69.8	68.8	68.0	66.9	65.9	65.3	65.3	65.6	67.3	69.3	71.8	73.6	75.2	76.5	77.0	77.2	76.7	75.1	73.8	72.5	71.4	70.2	68.8	67.5	70.4
Parkersburg, W. Va	65.3	64.5	63.6	62.8	62.2	62.9	63.6	65.6	69.1	72.7	75.8	78.3	80.4	82.1	83.6	83.2	82.4	81.3	79.0	77.2	74.6	72.5	71.7	70.4	73.2
Philadelphia, Pa	66.7	66.3	65.9	65.5	65.4	65.9	67.3	69.1	71.2	73.6	75.5	77.0	78.3	79.1	79.4	79.4	78.5	76.9	75.1	73.1	71.0	69.9	68.7	67.7	71.0
Pikes Peak, Colo	27.7	27.2	26.9	26.5	26.1	25.8	25.8	26.2	27.3	28.4	29.8	30.5	31.5	32.0	32.3	32.2	32.0	31.4	30.8	30.2	29.6	29.0	28.4	28.0	28.9
Pittsburg, Pa	66.6	65.8	64.9	64.2	63.5	64.2	64.6	67.9	70.5	72.8	75.3	76.8	78.2	79.3	79.3	79.3	78.0	76.8	75.3	73.4	71.8	70.0	68.8	67.8	71.8
Portland, Oreg	57.9	57.2	56.5	55.6	54.7	54.7	54.1	53.4	52.6	52.9	53.6	54.8	56.0	57.6	59.1	60.3	61.6	62.6	62.9	62.3	61.7	61.0	60.4	59.2	57.9
Rapid City, S. Dak	62.3	61.5	60.4	59.4	59.5	59.5	57.3	58.7	61.6	64.9	67.2	69.2	71.1	72.5	74.0	75.4	75.4	75.6	75.6	73.3	73.3	69.9	66.9	65.4	67.3
Red Bluff, Cal	67.3	66.1	64.5	62.6	61.5	61.5	60.4	62.0	64.8	67.6	70.7	73.0	74.9	76.2	75.7	75.2	74.1	73.0	71.4	69.9	68.4	67.3	66.4	64.2	69.3
Rochester, N. Y	63.6	62.9	62.5	62.0	62.0	61.7	62.0	63.6	66.2	68.5	70.7	72.4	74.1	74.7	76.1	76.9	76.9	75.7	75.6	74.3	73.1	71.7	70.8	70.0	69.1
Roseburg, Oreg	56.8	55.4	54.1	52.9	52.0	52.0	51.3	50.8	50.7	51.9	53.1	54.5	56.1	57.5	59.1	61.4	63.2	64.7	65.6	65.7	65.2	64.2	63.4	63.1	64.2
St. Louis, Mo	74.1	72.7	71.9	71.2	70.0	69.3	69.3	70.2	71.9	73.2	74.5	75.7	77.2	78.3	78.7	79.0	78.5	77.6	76.6	75.3	73.9	72.4	71.2	70.3	72.5
St. Paul, Minn	67.0	66.2	65.0	64.1	63.3	62.5	62.9	64.5	65.9	67.2	68.6	69.9	71.9	73.2	74.0	75.4	75.4	75.2	74.3	73.4	72.0	70.7	69.6	68.6	70.8
Salt Lake City, Utah	61.3	60.3	59.8	58.7	57.8	56.3	57.5	59.1	60.4	62.0	63.7	64.1	64.1	64.3	64.2	64.2	63.9	63.2	62.3	61.3	60.3	59.2	58.1	57.3	61.2
San Diego, Cal	58.7	58.3	57.8	57.7	57.8	57.5	57.5	57.2	56.8	56.7	56.6	56.1	56.2	56.6	56.6	56.7	56.8	56.8	56.8	56.7	56.6	56.5	56.4	56.3	56.7
San Francisco, Cal	53.2	52.8	52.7	52.4	52.1	51.9	51.6	51.6	52.0	52.4	53.1	54.5	55.6	56.6	57.5	58.3	58.6	58.7	58.7	58.6	58.4	58.3	58.2	58.1	58.4
Santa Fe, N. Mex	60.0	59.3	58.4	57.3	56.5	55.9	54.7	53.5	53.2	53.9	54.6	55.4	56.6	57.6	58.6	59.2	59.8	60.4	60.3	60.2	60.0	59.8	59.7	59.6	59.5
Sault Ste. Marie, Mich	55.4	54.4	53.9	53.5	52.9	52.9	52.9	54.2	55.6	56.1	56.7	57.6	58.2	59.0	59.6	60.2	60.6	60.7	60.6	60.4	60.2	60.0	59.9	59.8	59.8
Savannah, Ga	72.6	72.2	71.3	70.8	70.3	70.2	71.8	74.8	77.9	80.2	82.4	82.7	83.0	83.2	82.1	82.1	81.3	79.3	78.2	77.2	75.7	75.0	74.4	73.9	73.4
Seattle, Wash	57.1	56.0	55.2	54.6	54.0	53.1	52.5	52.0	52.4	53.2	54.0	54.8	55.8	56.6	57.1	58.9	60.3	61.4	62.3	63.2	64.3	64.2	62.7	61.4	59.9
Shreveport, La	72.6	71.6	70.7	70.0	69.5	69.2	69.6	72.0	75.0	77.8	80.3	82.1	83.4	84.8	85.5	86.4	86.8	85.4	84.8	83.5	82.7	81.3	79.0	77.2	75.9
Spokane, Wash	57.6	56.5	55.0	54.0	53.2	52.9	52.0	50.9	51.3	52.0	53.2	54.8	56.6	58.6	59.3	61.4	62.0	62.6	63.2	63.4	63.2	62.7	62.1	61.7	59.5
Titusville, Fla	73.4	72.8	72.1	71.6	71.6	71.6	71.9	74.0	77.2	80.2	82.5	84.8	85.6	86.4	86.8	87.0	87.0	86.8	85.4	84.3	83.5	82.7	81.7	80.9	80.0
Toledo, Ohio	66.3	66.5	64.7	63.7	62.7	62.9	64.4	67.3	69.8	72.2	74.6	76.5	78.0	79.3	80.3	81.1	80.6	79.9	78.8	77.6	76.7	75.7	74.6	73.8	74.2
Tucson, Ariz	76.0	73.0	71.1	70.6	70.2	69.7	69.5	69.6	71.9	73.5	75.2	77.0	78.5	79.8	80.7	81.5	82.1	82.6	82.8	82.6	82.0	81.3	80.4	79.6	80.0
Vicksburg, Miss	71.9	71.1	70.6	70.2	69.7	69.4	69.1	70.4	72.6	74.9	77.0	79.1	80.3	81.5	82.3	82.6	82.6	82.2	81.9	81.5	81.0	80.4	79.9	79.3	79.7
Washington, D.C	67.3	66.5	65.6	64.7	64.4	67.7	65.1	68.2	70.1	72.6	74.9	77.0	78.7	80.3	81.1	82.0	82.6	82.8	82.6	82.2	81.8	81.2	80.6	80.0	80.3
Wilmington, N.C	69.9	69.5	68.7	68.3	67.7	67.4	67.7	68.9	70.6	72.6	74.6	76.5	78.0	79.3	80.3	81.1	81.5	81.8	81.9	81.8	81.5	81.2	80.9	80.6	81.0
Winnemucca, Nev	56.1	55.5	53.8	52.0	51.1	49.4	47.9	46.8	48.6	52.2	55.3	58.5	60.4	62.6	64.3	66.0	66.3	66.0	64.3	63.3	62.3	61.3	60.3	59.3	61.2
Yuma, Aris	74.7	73.0	71.9	70.2	68.6	67.0	64.9	65.1	68.2	70.1	72.6	74.9	75.7	79.8	80.3	81.1	82.0	83.1	84.3	85.2	85.9	85.6	84.6	80.5	77.2

* For 26 days.

TABLE VI.—*Mean pressure for each hour of seventy-fifth meridian time, June, 1894.*

Stations.	1 a. m.	2 a. m.	3 a. m.	4 a. m.	5 a. m.	6 a. m.	7 a. m.	8 a. m.	9 a. m.	10 a. m.	11 a. m.	Noon.	1 p. m.	2 p. m.	3 p. m.	4 p. m.	5 p. m.	6 p. m.	7 p. m.	8 p. m.	9 p. m.	10 p. m.	11 p. m.	Midnight.	Mean.
Abilene, Tex	28.191	.194	.195	.195	.195	.205	.219	.226	.239	.245	.246	.245	.228	.208	.187	.173	.152	.137	.134	.138	.155	.169	.185	.190	.194
Albany, N. Y	29.869	.868	.868	.872	.881	.887	.893	.895	.894	.890	.883	.874	.861	.853	.843	.839	.836	.841	.849	.857	.870	.876	.883	.885	.870
Alpena, Mich	29.293	.287	.287	.286	.290	.297	.302	.301	.299	.295	.293	.292	.284	.282	.273	.268	.265	.263	.268	.273	.283	.291	.292	.295	.286
Atlanta, Ga	28.910	.911	.913	.913	.923	.937	.948	.963	.967	.966	.960	.949	.929	.912	.894	.881	.872	.867	.875	.881	.900	.911	.916	.916	.917
Augusta, Ga	29.887	.885	.884	.886	.892	.904	.916	.928	.932	.930	.923	.913	.892	.872	.848	.836	.830	.830	.839	.856	.869	.889	.891	.892	.884
Baltimore, Md	29.807	.801	.799	.806	.818	.827	.833	.838	.848	.836	.833	.824	.811	.798	.788	.778	.775	.781	.786	.797	.807	.814	.818	.818	.810
Bismarck, N. Dak	28.097	.104	.104	.102	.103	.110	.115	.121	.124	.126	.120	.113	.103	.093	.081	.072	.066	.058	.052	.052	.058	.070	.083	.087	.092
Boston, Mass	29.820	.819	.818	.820	.831	.836	.843	.844	.840	.835	.831	.820	.808	.802	.796	.791	.792	.798	.806	.817	.829	.834	.838	.836	.821
Buffalo, N. Y	29.235	.232	.228	.234	.243	.254	.262	.266	.269	.269	.272	.266	.256	.247	.241	.237	.231	.230	.235	.239	.251	.253	.253	.250	.248
Chicago, Ill	29.124	.119	.122	.124	.130	.139	.151	.160	.161	.158	.154	.150	.143	.129	.118	.108	.098	.096	.094	.095	.107	.118	.120	.121	.128
Cincinnati, Ohio	29.360	.357	.356	.361	.373	.383	.395	.403	.399	.399	.396	.388	.374	.360	.347	.336	.328	.328	.333	.335	.348	.358	.364	.364	.364
Cleveland, Ohio	29.201	.198	.202	.208	.218	.231	.243	.252	.253	.249	.246	.243	.232	.219	.209	.199	.193	.191	.194	.201	.208	.214	.211	.206	.218
Colorado Sp'gs, Colo	24.044	.046	.045	.045	.047	.052	.063	.068	.070	.068	.060	.053	.040	.025	.012	.001	.983	.974	.969	.979	.986	.004	.028	.036	.029
Columbus, Ohio	29.118	.113	.113	.118	.126	.140	.150	.156	.158	.155	.154	.146	.137	.122	.107	.095	.086	.084	.089	.094	.105	.115	.119	.122	.122
Denver, Colo	24.745	.748	.745	.746	.743	.747	.754	.758	.763	.765	.758	.753	.743	.731	.714	.703	.695	.689	.685	.688	.697	.709	.729	.738	.731
Des Moines, Iowa	29.050	.051	.054	.057	.061	.071	.079	.085	.094	.092	.085	.079	.065	.051	.035	.024	.012	.005	.005	.003	.013	.027	.036	.042	.049
Detroit, Mich	29.215	.214	.212	.214	.223	.232	.240	.247	.247	.242	.238	.233	.222	.212	.200	.190	.184	.188	.193	.196	.206	.214	.218	.221	.217
Dodge City, Kans	27.374	.374	.372	.368	.367	.367	.371	.381	.392	.395	.390	.389	.384	.374	.356	.344	.329	.320	.314	.315	.324	.342	.362	.365	.361
Duluth, Minn	29.201	.202	.202	.205	.211	.218	.226	.232	.233	.227	.224	.216	.207	.196	.189	.181	.171	.169	.170	.174	.176	.186	.192	.195	.200
Eastport, Me	29.847	.844	.842	.846	.852	.857	.862	.864	.863	.862	.856	.849	.840	.833	.824	.818	.818	.823	.833	.843	.854	.858	.859	.857	.846
El Paso, Tex	26.143	.147	.148	.150	.156	.161	.175	.192	.207	.216	.212	.206	.193	.179	.159	.136	.118	.101	.085	.080	.081	.093	.116	.134	.150
Galveston, Tex	30.016	.007	.999	.999	.002	.008	.016	.028	.038	.040	.046	.049	.045	.035	.028	.014	.007	.996	.994	.000	.007	.017	.023	.025	.018
Grand Haven, Mich	29.290	.289	.294	.295	.304	.308	.316	.323	.327	.327	.324	.322	.316	.309	.300	.288	.279	.275	.273	.274	.278	.286	.291	.294	.299
Havre, Mont	27.238	.243	.244	.246	.245	.248	.256	.259	.262	.261	.260	.258	.250	.242	.239	.232	.226	.222	.222	.217	.222	.226	.238	.246	.242
Helena, Mont	25.784	.789	.790	.791	.792	.793	.793	.797	.802	.802	.800	.793	.785	.774	.762	.756	.754	.754	.753	.755	.763	.770	.785	.792	.781
Huron, S. Dak	28.505	.503	.504	.505	.511	.515	.520	.528	.536	.533	.523	.516	.508	.493	.479	.466	.459	.454	.446	.448	.456	.469	.486	.496	.494
Indianapolis, Ind	29.209	.211	.212	.212	.219	.230	.239	.245	.249	.248	.247	.243	.229	.216	.203	.193	.187	.183	.183	.189	.192	.200	.207	.211	.215
Jacksonville, Fla	30.050	.045	.043	.044	.052	.062	.072	.077	.075	.075	.071	.059	.045	.032	.015	.010	.009	.013	.024	.035	.050	.058	.061	.059	.047
Kansas City, Mo	28.988	.990	.993	.991	.996	.007	.015	.024	.032	.031	.029	.026	.021	.007	.988	.978	.961	.952	.949	.952	.957	.970	.980	.983	.992
Key West, Fla	30.049	.038	.033	.033	.036	.047	.061	.069	.074	.077	.079	.076	.066	.053	.037	.026	.022	.027	.038	.052	.060	.067	.068	.064	.052
Knoxville, Tenn	29.049	.045	.044	.048	.057	.068	.080	.091	.095	.093	.088	.078	.063	.043	.027	.013	.005	.002	.010	.018	.027	.042	.049	.050	.049
Little Rock, Ark	29.724	.722	.721	.725	.731	.742	.757	.768	.779	.777	.773	.766	.751	.732	.712	.693	.682	.678	.681	.683	.692	.709	.718	.722	.727
Louisville, Ky	29.471	.468	.468	.471	.479	.489	.504	.513	.517	.515	.510	.500	.487	.472	.458	.447	.436	.432	.432	.442	.453	.465	.471	.473	.474
Lynchburg, Va	29.324	.324	.327	.331	.343	.351	.363	.365	.364	.366	.358	.344	.326	.312	.295	.288	.275	.281	.292	.303	.321	.330	.332	.333	.327
Marquette, Mich	29.145	.141	.139	.144	.147	.152	.161	.163	.169	.171	.170	.169	.160	.155	.150	.146	.140	.137	.137	.134	.142	.146	.145	.146	.150
Memphis, Tenn	29.708	.699	.698	.702	.710	.721	.736	.750	.755	.755	.755	.748	.734	.719	.703	.689	.681	.677	.678	.677	.686	.702	.707	.710	.712
Milwaukee, Wis	29.252	.253	.256	.262	.268	.279	.287	.293	.294	.287	.285	.284	.279	.272	.261	.249	.240	.233	.234	.233	.242	.254	.255	.254	.263
Moorhead, Minn	28.872	.872	.875	.876	.883	.887	.896	.896	.902	.900	.895	.889	.877	.869	.858	.853	.844	.835	.831	.835	.835	.852	.855	.864	.869
Nantucket, Mass	29.985	.983	.983	.986	.993	.999	.004	.009	.009	.010	.007	.003	.996	.991	.983	.977	.976	.981	.985	.988	.003	.004	.007	.006	.993
Nashville, Tenn	29.467	.462	.458	.464	.472	.483	.496	.506	.510	.507	.503	.495	.476	.462	.440	.429	.423	.427	.436	.442	.455	.467	.468	.468	.467
New Haven, Conn	29.851	.850	.850	.854	.861	.868	.873	.871	.872	.870	.864	.856	.847	.837	.826	.821	.819	.825	.834	.845	.862	.863	.867	.869	.852
New Orleans, La	29.998	.993	.991	.993	.000	.012	.023	.032	.040	.039	.036	.032	.024	.014	.002	.991	.979	.976	.977	.981	.992	.999	.006	.004	.006
New York, N. Y	29.796	.798	.793	.796	.803	.813	.817	.822	.820	.819	.817	.810	.801	.792	.783	.775	.768	.772	.779	.788	.802	.808	.813	.813	.800
Norfolk, Va	29.982	.972	.975	.977	.989	.996	.002	.007	.007	.005	.004	.996	.983	.971	.959	.953	.948	.953	.960	.970	.984	.991	.993	.993	.982
Omaha, Neb	28.799	.797	.799	.801	.806	.813	.819	.821	.828	.829	.823	.817	.807	.795	.782	.769	.758	.747	.740	.749	.757	.770	.785	.789	.792
Philadelphia, Pa	29.881	.879	.877	.877	.885	.894	.902	.907	.907	.908	.904	.899	.886	.878	.867	.860	.855	.857	.864	.871	.883	.888	.894	.895	.884
Pikes Peak, Colo	17.899	.888	.877	.869	.860	.857	.858	.863	.874	.891	.900	.907	.911	.912	.909	.908	.909	.903	.898	.903	.905	.909	.913	.913	.893
Pittsburg, Pa	29.155	.157	.155	.157	.166	.174	.184	.190	.189	.186	.180	.172	.161	.146	.135	.127	.122	.121	.129	.137	.147	.155	.160	.162	.157
Portland, Oreg	29.865	.868	.869	.870	.872	.872	.873	.880	.882	.886	.889	.887	.883	.877	.872	.865	.857	.853	.851	.845	.845	.850	.855	.867	.868
Rochester, N. Y	29.415	.413	.416	.420	.427	.438	.450	.454	.452	.449	.447	.445	.436	.423	.416	.409	.406	.405	.407	.413	.425	.430	.429	.430	.427
Roseburg, Oreg	29.456	.462	.462	.466	.463	.462	.462	.465	.467	.470	.473	.471	.463	.459	.453	.443	.435	.426	.422	.417	.418	.425	.435	.447	.451
St. Louis, Mo	29.406	.402	.402	.399	.404	.418	.432	.446	.454	.451	.449	.443	.430	.415	.401	.384	.375	.362	.364	.370	.379	.396	.406	.407	.408
St. Paul, Minn	29.044	.039	.041	.043	.046	.052	.059	.066	.071	.073	.074	.068	.057	.047	.037	.023	.016	.003	.993	.997	.999	.013	.025	.031	.038
Salt Lake City, Utah	25.597	.599	.599	.599	.600	.605	.613	.624	.633	.643	.646	.643	.638	.630	.615	.603	.591	.583	.576	.570	.575	.581	.592	.600	.606
San Diego, Cal	29.903	.900	.891	.887	.878	.874	.877	.884	.894	.904	.911	.911	.912	.911	.908	.902	.896	.889	.884	.879	.882	.884	.893	.901	.894
San Francisco, Cal	29.869	.868	.865	.861	.856	.850	.854	.859	.867	.876	.883	.886	.888	.888	.885	.881	.873	.864	.857	.851	.850	.852	.858	.867	.867
Santa Fe, N. Mex	23.305	.307	.308	.308	.310	.313	.318	.330	.336	.346	.348	.348	.345	.336	.324	.315	.300	.286	.276	.273	.273	.277	.291	.303	.311
S'lt Ste. Marie, Mich	29.249	.248	.247	.252	.256	.264	.269	.270	.268	.263	.256	.252	.246	.241	.230	.226	.218	.217	.218	.223	.230	.239	.247	.250	.245
Savannah, Ga	29.996	.989	.986	.990	.998	.010	.022	.030	.033	.033	.029	.020	.005	.990	.976	.968	.961	.966	.974	.980	.990	.001	.004	.003	.998
Seattle, Wash	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Spokane, Wash	27.900	.904	.905	.908	.912	.912	.918	.926	.932	.939	.933	.925	.916	.918	.916	.910	.903	.902	.897	.892	.895	.898	.907	.915	.912
Toledo, Ohio	29.282	.280	.286	.290	.303	.312	.320	.324	.327	.325	.317	.310	.302	.287	.271	.260	.252	.251	.256	.259	.272	.279	.284	.287	.289
Vicksburg, Miss	29.772	.768	.772	.773	.778	.791	.804	.820	.829	.827	.825	.820	.809	.791	.774	.760	.749	.741	.743	.746	.749	.761	.769	.771	.781
Washington, D. C	29.905	.902	.899	.904	.912	.919	.925	.932	.934	.935	.935	.927	.920	.906	.894	.884	.877	.877	.883	.891	.902	.911	.914	.916	.908
Wilmington, N. C	30.001	.998	.997	.003	.016	.027	.036	.041	.039	.037	.032	.024	.008	.997	.983	.976	.972	.980	.987	.994	.013	.015	.014	.010	.008
Yuma, Ariz	29.664	.667	.665	.664	.663	.665	.675	.690	.707	.718	.722	.720	.715	.705	.687	.672	.651	.632	.619	.613	.613	.623	.638	.656	.668

TABLE VII.—*Average wind movement for each hour of seventy-fifth meridian time, June, 1894.*

Stations.	1 a. m.	2 a. m.	3 a. m.	4 a. m.	5 a. m.	6 a. m.	7 a. m.	8 a. m.	9 a. m.	10 a. m.	11 a. m.	Noon.	1 p. m.	2 p. m.	3 p. m.	4 p. m.	5 p. m.	6 p. m.	7 p. m.	8 p. m.	9 p. m.	10 p. m.	11 p. m.	Midnight.	Mean.
Abilene, Tex	10.9	11.3	11.4	10.9	11.1	10.8	9.6	9.9	12.2	13.6	13.7	13.1	12.9	12.7	12.6	12.2	13.2	13.1	13.1	12.2	10.8	10.1	10.4	11.2	11.8
Albany, N. Y	4.4	3.9	3.8	4.3	4.4	4.5	5.8	6.6	7.2	7.9	8.5	9.6	10.2	10.1	10.2	10.8	9.1	7.8	6.7	5.4	4.5	4.4	4.6	4.5	6.6
Alpena, Mich	5.6	5.9	5.6	5.5	5.5	5.9	6.0	7.0	7.4	8.2	9.7	10.6	11.0	11.6	12.1	11.4	10.8	9.3	9.0	7.5	5.8	5.5	5.2	5.0	7.8
Amarillo, Tex	18.2	18.6	18.6	18.4	18.4	18.5	18.2	16.5	18.6	20.5	21.0	19.7	17.9	18.7	18.6	19.8	20.5	21.4	21.5	22.0	20.1	18.7	18.5	17.9	19.2
Atlanta, Ga	8.2	8.0	7.5	7.4	7.0	7.2	6.6	6.5	6.6	6.6	6.8	6.8	7.5	8.0	9.2	9.7	9.8	9.6	8.0	6.9	7.1	7.8	8.5	8.4	7.7
Atlantic City, N. J	9.2	10.0	9.5	9.8	9.9	9.3	9.7	10.8	10.6	10.7	12.1	12.4	12.1	13.0	13.1	13.2	12.4	11.6	10.9	10.8	10.8	10.6	10.0	10.7	11.0
Augusta, Ga	3.7	3.3	3.1	2.5	2.3	2.3	2.4	3.0	3.6	3.8	4.3	4.9	6.0	6.2	6.8	7.3	6.7	7.5	6.8	6.8	5.8	4.1	4.4	3.8	4.6
Baker City, Oreg	3.2	2.7	2.8	3.0	3.3	3.9	4.4	4.4	4.2	3.9	2.8	3.3	3.9	4.6	6.4	6.5	6.7	7.3	6.7	7.5	7.7	6.7	3.9	3.1	4.7
Baltimore, Md	5.2	5.5	5.1	4.4	4.4	4.2	4.9	5.9	7.0	7.8	8.5	8.5	8.8	8.9	8.6	8.8	8.9	7.5	6.2	5.3	5.1	4.9	5.4	5.2	6.5
Bismarck, N. Dak	8.0	7.4	6.3	6.2	6.5	7.0	6.6	6.9	8.2	11.4	11.9	12.2	12.9	13.7	14.4	15.0	14.2	13.8	13.2	12.5	10.9	8.9	9.1	9.0	10.3
Block Island, R. I	14.7	14.1	13.3	12.6	11.1	11.4	13.4	14.2	15.3	15.5	15.7	16.7	17.9	18.9	19.5	19.4	18.7	18.0	17.9	17.4	16.9	16.4	15.9	14.9	15.8
Boston, Mass	9.6	9.3	9.5	9.3	9.2	8.7	9.3	9.8	10.1	10.1	10.6	11.1	12.0	13.1	13.2	13.2	12.9	11.9	11.3	10.2	10.0	9.9	9.9	9.2	10.5
Buffalo, N. Y	7.9	8.2	7.7	8.1	8.0	8.3	9.1	10.0	10.2	11.1	12.0	12.0	12.4	12.7	11.8	11.5	10.9	10.5	8.8	8.9	8.4	8.1	7.6	7.9	9.7
Cairo, Ill	5.2	5.2	4.8	4.9	5.2	5.4	5.0	5.8	6.4	6.5	6.7	7.2	8.0	8.9	9.2	9.8	9.4	8.5	8.0	6.3	5.1	5.2	4.9	4.7	6.5
Cape Henry, Va	12.8	13.7	12.6	12.1	12.9	12.1	12.7	13.2	12.2	11.9	11.6	12.2	11.0	11.7	11.6	13.0	12.5	12.5	10.7	10.6	11.0	11.4	12.1	12.7	12.1
Charleston, S. C	5.8	5.7	5.7	5.0	5.1	4.6	4.8	5.6	5.9	6.4	8.1	10.0	11.0	11.9	11.9	11.9	11.6	11.4	10.8	9.2	8.2	7.5	7.2	6.1	8.0
Charlotte, N. C	5.2	5.0	5.4	5.3	4.8	4.3	4.6	5.4	6.6	6.5	7.1	7.0	7.0	6.8	7.1	7.6	7.5	6.4	5.8	5.7	5.1	5.5	5.3	5.3	5.9
Chattanooga, Tenn	4.6	4.3	4.5	4.2	4.6	3.9	3.6	4.8	6.0	6.1	6.3	6.7	7.6	8.1	8.8	8.4	8.2	8.9	7.8	6.5	5.7	5.1	4.3	4.4	6.0
Cheyenne, Wyo	10.6	9.8	8.3	9.4	8.6	7.9	7.8	8.4	9.4	11.0	12.3	13.9	14.6	15.3	15.5	15.3	16.1	15.2	14.2	15.8	14.5	10.4	10.4	10.4	11.9
Chicago, Ill	15.6	16.0	17.3	16.9	15.8	16.1	15.9	15.0	13.9	13.6	13.4	13.9	14.8	14.8	14.7	15.4	14.3	14.5	13.9	12.7	13.3	13.9	14.1	15.2	14.8
Cincinnati, Ohio	4.0	3.3	3.2	3.1	3.5	3.4	3.4	4.3	5.1	6.0	6.9	7.4	8.5	8.5	8.6	9.6	8.7	7.9	7.4	5.9	4.8	4.4	3.6	3.7	5.6
Cleveland, Ohio	8.8	8.8	9.0	8.4	8.6	8.4	8.8	8.7	9.3	9.9	10.3	11.1	12.0	12.7	12.8	12.7	11.0	9.5	7.4	6.1	7.7	7.8	8.4	7.8	9.4
Colorado Spr'gs, Colo.	7.9	7.9	8.0	8.3	7.7	7.7	7.2	6.5	6.4	6.6	8.8	10.2	11.6	13.8	14.6	15.6	15.1	15.4	14.4	14.5	11.9	9.2	9.1	8.7	10.3
Columbia, Mo	4.2	3.7	4.0	3.8	3.6	3.3	3.8	4.4	5.0	6.3	6.9	7.4	8.1	8.1	8.1	8.6	8.4	7.8	7.0	5.5	4.4	4.1	4.7	4.5	5.7
Columbus, Ohio	5.2	5.4	5.0	4.8	4.2	4.2	4.4	5.0	6.0	6.5	7.7	9.4	10.2	10.8	12.3	11.1	10.5	10.0	8.2	7.2	6.6	6.8	6.5	5.9	7.3
Concordia, Kans	6.3	5.9	5.3	5.5	4.8	4.5	4.8	5.0	6.8	8.3	8.3	8.6	9.5	10.1	10.2	10.6	10.1	10.2	9.1	7.9	6.1	6.3	5.9	6.1	7.4
Corpus Christi, Tex	15.0	12.9	11.7	10.4	8.8	8.9	8.1	7.7	9.5	10.7	11.8	13.1	14.8	16.3	17.3	18.1	19.1	19.8	20.1	19.5	19.1	18.7	17.9	16.6	14.4
Davenport, Iowa	6.8	6.1	5.1	4.8	5.3	5.6	5.5	5.6	6.3	7.6	8.5	9.8	10.2	10.5	11.0	11.2	11.6	11.0	9.8	8.0	6.3	6.1	5.5	5.5	7.7
Denver, Colo	7.2	7.0	6.4	6.4	6.2	5.9	6.1	5.4	6.0	6.7	6.8	7.5	9.3	10.3	11.2	12.7	12.8	12.2	11.2	10.2	8.7	8.0	6.8	7.3	8.3
Des Moines, Iowa	5.1	5.2	4.4	4.0	3.8	4.0	4.2	4.9	6.3	7.3	8.4	8.5	9.5	10.2	10.8	11.0	11.1	11.1	10.5	9.0	7.9	7.5	6.5	5.4	7.4
Detroit, Mich	7.2	7.7	8.1	7.6	6.9	7.0	6.9	7.5	8.7	9.7	10.6	11.4	11.9	12.9	12.5	12.2	11.5	10.5	8.3	8.4	7.4	7.7	7.1	7.1	9.0
Dodge City, Kans	13.2	13.2	13.2	11.2	10.2	10.2	10.1	10.8	13.6	15.5	16.7	16.9	16.8	16.5	17.0	17.6	17.7	18.7	19.1	19.7	17.8	16.6	16.1	14.3	15.1
Dubuque, Iowa	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Duluth, Minn	4.6	5.2	5.2	5.2	5.7	5.0	5.0	5.1	5.4	6.4	6.9	7.0	7.6	7.8	7.2	7.7	7.6	6.8	6.4	5.7	5.0	4.8	5.0	4.3	5.9
Eastport, Me	5.9	5.5	5.5	5.1	5.7	5.3	5.5	5.8	5.9	6.7	7.2	8.0	9.0	8.6	8.7	9.7	9.4	8.4	7.5	7.4	7.3	7.6	6.2	5.8	7.0
El Paso, Tex	7.7	8.1	8.8	8.4	8.2	8.1	8.8	8.5	8.0	8.6	9.7	10.1	9.8	9.4	9.1	10.3	10.7	11.1	11.4	11.8	10.6	7.4	6.5	7.2	9.1
Erie, Pa	8.4	8.3	8.1	8.6	7.9	8.0	7.9	7.4	8.0	8.8	9.2	10.1	10.8	11.0	10.1	9.1	8.6	8.1	6.5	6.1	6.2	7.2	7.5	7.8	8.3
Eureka, Cal	6.9	7.1	5.9	5.2	4.6	4.5	4.3	4.1	3.7	4.5	5.1	5.9	8.1	9.3	10.7	11.6	11.8	12.4	12.5	12.0	11.3	9.9	8.3	7.3	7.8
Fort Canby, Wash	9.2	8.8	9.1	8.6	7.8	7.8	7.7	7.9	7.4	7.8	7.8	7.9	9.0	9.6	9.9	10.4	10.9	11.7	12.4	12.2	12.4	12.4	10.5	10.6	9.6
Fort Smith, Ark	4.4	4.3	4.3	4.7	4.2	4.7	4.4	5.4	6.1	5.8	6.8	6.5	7.4	8.9	9.0	9.4	9.2	8.6	7.6	6.8	6.1	5.7	5.1	5.0	6.3
Fresno, Cal	10.9	11.2	10.9	10.2	9.4	9.1	7.4	6.7	6.8	7.1	7.5	7.4	6.4	6.1	6.0	6.2	6.3	6.7	7.1	7.9	9.1	9.6	9.6	11.1	8.2
Galveston, Tex	11.1	10.9	11.1	10.6	10.6	9.7	9.5	9.4	10.0	10.5	10.5	10.5	11.0	11.6	11.4	11.2	11.2	11.2	11.0	11.2	10.8	11.1	11.3	10.8	10.8
Grand Haven, Mich	6.8	6.6	6.6	6.9	7.2	7.0	7.0	7.5	8.4	9.1	10.1	10.2	10.6	10.7	10.6	10.2	9.1	8.3	6.4	5.1	4.6	5.3	5.2	6.7	7.8
Green Bay, Wis	6.3	6.1	6.1	6.4	6.0	5.7	5.4	6.6	7.7	8.4	8.6	8.8	9.1	9.3	9.9	10.4	10.2	9.7	8.2	8.1	7.4	6.8	6.4	6.7	7.7
Hannibal, Mo	7.2	6.5	6.4	6.9	5.7	5.0	5.2	6.1	7.3	8.5	9.3	9.3	10.2	10.6	10.9	10.7	10.4	9.6	8.7	7.9	7.1	7.4	7.9	7.4	8.0
Harrisburg, Pa	4.1	4.1	4.4	4.2	4.0	4.3	4.3	5.1	5.7	6.3	6.7	7.3	7.8	7.5	7.5	7.6	6.4	6.9	5.3	4.6	4.6	4.5	4.3	3.7	5.5
Hatteras, N. C	13.4	12.4	12.1	11.5	11.6	11.9	12.2	12.1	12.7	12.4	13.1	13.1	13.4	14.3	14.2	14.9	15.0	13.7	13.3	12.9	12.2	12.1	12.1	12.3	12.9
Havre, Mont	6.2	7.7	7.2	6.0	6.1	6.6	6.6	7.2	9.5	10.6	12.1	12.2	11.8	12.5	12.5	12.3	12.0	11.7	11.3	11.3	10.3	8.0	7.0	6.3	9.4
Helena, Mont	7.4	7.6	7.6	8.3	7.7	7.1	7.3	6.6	5.8	5.5	6.2	6.3	6.8	7.8	7.6	8.4	10.0	10.0	10.2	9.7	10.0	9.0	8.7	8.8	7.9
Huron, S. Dak	14.6	13.4	12.1	12.7	11.0	11.2	12.0	13.3	15.5	16.9	18.1	18.7	19.2	19.8	19.8	19.4	19.9	20.3	18.5	17.4	15.7	14.1	15.1	15.3	16.0
Idaho Falls, Idaho	6.8	6.4	6.4	6.9	6.7	6.3	6.6	7.1	6.9	7.2	8.2	9.1	8.8	9.0	9.9	10.4	11.4	13.1	12.3	11.9	11.8	10.2	8.1	8.4	8.7
Indianapolis, Ind	3.2	3.1	3.1	2.6	2.9	2.6	2.7	3.7	4.4	4.9	5.5	5.9	6.6	7.6	7.4	7.4	7.3	6.9	6.1	5.1	4.1	3.9	3.3	3.2	4.7
Jacksonville, Fla	5.1	4.8	4.9	4.6	4.7	4.5	4.3	5.4	6.4	7.0	7.5	8.1	8.7	9.1	11.4	11.2	10.8	10.8	8.4	7.4	5.9	6.1	5.9	5.9	7.0
Jupiter, Fla	6.7	6.5	6.0	6.4	6.7	7.0	6.7	7.1	8.1	8.7	9.6	9.5	11.1	11.6	11.7	11.4	9.8	9.4	8.0	7.2	7.4	7.7	7.1	6.9	8.3
Kansas City, Mo	7.4	7.1	6.6	6.5	6.8	6.9	6.5	7.3	8.3	8.6	10.2	9.9	10.4	10.0	10.3	10.1	10.6	9.8	8.9	7.7	7.0	7.3	7.7	6.8	8.3
Keokuk, Iowa	5.7	5.5	5.3	4.8	4.9	4.6	4.6	5.5	6.6	7.8	7.9	8.5	8.4	8.9	9.3	10.1	9.2	8.5	7.8	7.3	6.1	5.2	5.7	5.4	6.8
Key West, Fla	6.9	7.1	6.7	6.4	6.8	7.1	7.9	8.3	9.6	10.1	10.2	10.5	9.5	10.2	10.0	9.7	9.5	9.5	8.4	8.3	8.2	8.2	8.0	7.5	8.5
Kittyhawk, N. C	14.1	13.6	13.5	13.6	12.9	13.0	13.4	14.0	13.4	15.1	13.0	12.6	13.0	14.4	16.2	17.8	18.6	18.2	17.1	16.5	16.8	16.1	15.3	14.9	14.9
Knoxville, Tenn	2.6	2.4	2.7	1.9	2.1	2.0	2.6	3.5	4.7	5.4	5.7	6.0	6.9	6.9	7.1	7.0	7.5	7.2	6.3	5.2	3.9	3.1	3.0	2.7	4.5
La Crosse, Wis	4.4	4.1	3.8	3.6	3.6	3.2	4.3	4.9	5.5	6.2	6.3	7.0	8.5	9.3	9.6	9.7	10.0	8.9	8.8	7.0	5.0	5.2	4.7	4.8	6.2
Lander, Wyo	5.2	4.3	4.2	4.1	3.0	3.1	2.9	2.4	2.3	3.4	4.2	4.4	6.4	7.6	8.9	9.6	9.5	10.9	11.2	10.3	9.8	7.1	6.9	6.2	6.2
Lexington, Ky	8.4	8.0	8.7	8.6	8.5	8.8	8.4	7.7	8.3	8.5	8.8	9.7	10.3	11.1	12.6	11.6	10.2	9.2	7.9	7.4	8.3	8.8	9.1	9.0	9.1
Little Rock, Ark	3.4	3.5	3.7	3.7	3.9	4.3	4.3	4.8	6.1	7.1	7.7	7.3	7.9	8.5	8.4	8.7	9.9	9.1	9.0	8.1	5.6	5.0	4.4	4.2	6.2
Los Angeles, Cal	2.3	2.6	2.6	2.6	2.3	2.3	2.3	2.2	2.5	2.7	2.8	3.0	3.5	4.2	5.9	7.5	8.6	8.9	8.6	8.0	7.2	5.7	4.0	2.5	4.4
Louisville, Ky	4.5	4.5	4.2	3.6	3.6	3.8	3.7	4.3	5.2	6.2	7.2	7.5	8.8	9.5	9.4	9.1	9.4	8.4	7.1	6.1	5.0	5.0	5.5	4.6	6.1
Lynchburg, Va	2.1	2.2	2.2	2.1	2.3	2.3	2.5	3.9	4.6	4.9	5.6	5.5	6.2	6.1	5.8	5.7	5.2	4.9	4.4	3.4	2.8	2.7	2.1	1.7	3.8
Marquette, Mich	8.0	8.3	9.1	8.7	8.8	8.7	7.9	8.6	8.4	8.9	8.8	8.6	8.8	9.1	8.5	8.7	7.0	6.6	5.5	5.5	5.5	5.7	6.6	7.7	7.8
Memphis, Tenn	5.6	5.1	5.2	4.8	4.6	4.6	4.3	4.7	5.8	5.7	6.1	6.6	7.2	7.2	7.3	7.7	7.8	7.7	7.2	5.6	5.7	5.3	5.2	5.2	5.9
Meridian, Miss	2.0	2.1	2.0	2.0	1.9	1.8	1.7	2.7	4.6	5.5	5.6	6.1	7.0	7.7	7.9	7.6	7.4	7.2	6.4	5.0	2.6	1.9	1.5	1.3	4.2
Miles City, Mont	7.2	6.7	5.8	6.3	6.3	5.9	5.7	5.8	6.8	7.0	7.6	8.5	7.9	8.6	8.6	8.7	8.6	8.6	9.4	9.7	9.4	8.9	9.8	8.3	7.8
Milwaukee, Wis	7.4	7.0	7.1	6.6	6.7	7.0	6.7	6.9	8.1	9.1	9.4	9.7	11.5	11.1	11.9	11.4	10.7	9.5	9.1	8.6	8.2	8.1	8.1	8.1	8.7
Mobile, Ala	4.4	4.7	4.6	4.4	4.5	4.6	4.4	4.9	5.8	6.5	7.0	7.8	8.7	9.8	10.9	11.9	11.5	11.3	9.5	8.1	6.3	5.6	5.4	4.9	7.0
Montgomery, Ala	3.8	3.6	3.3	3.1	3.1	3.1	2.8	3.7	5.2	5.6	5.6	6.1	6.4	7.0	7.5	7.7	8.2	7.8	6.7	6.0	4.1	4.4	4.1	4.1	5.1
Moorhead, Minn	11.2	11.1	10.0	10.2	10.4	10.5	10.0	10.6	11.5	12.5	13.3	14.3	14.8	14.5	14.4	14.4	14.2	13.5	13.1	12.7	11.1	11.3	11.6	11.8	12.2
Nantucket, Mass	9.5	9.2	9.1	9.4	9.5	9.1	9.7	10.3	11.3	11.6	11.5	11.4	12.9	12.7	12.7	12.2	11.8	10.4	9.8	9.4	9.5	9.6	8.9	8.7	10.4
Nashville, Tenn	2.7	2.4	2.1	2.2	2.1	2.4	2.4	3.3	4.5	5.4	5.6	6.1	6.3	6.8	7.4	7.6	8.0	8.0	7.2	5.8	4.7	3.6	3.1	2.7	4.7
New Haven, Conn	5.7	5.4	5.3	4.4	4.5	4.5	4.7	5.9	6.8	7.8	8.2	8.7	9.8	10.1	10.3	10.6	9.9	8.7	7.0	6.6	6.5	6.6	5.9	5.9	7.1
New London, Conn	4.5	4.3	3.7	3.8	3.7	4.2	4.8	6.0	7.0	8.3	9.0	9.1	9.6	10.7	9.7	9.6	8.7	7.1	5.5	4.7	5.3	5.4	5.6	4.8	6.5
New Orleans, La	4.1	4.3	3.9	3.5	3.6	4.0	4.0	4.7	6.3	7.3	7.6	7.4	7.7	8.0	8.1	7.3	7.4	7.0	6.3	5.3	4.9	4.4	4.6	4.4	5.7
New York, N. Y	7.9	8.2	8.1	7.2	7.7	7.3	7.0	7.5	7.6	7.9	8.8	9.4	9.6	10.1	10.2	9.9	10.0	10.2	9.5	9.3	9.1	8.5	8.3	8.2	8.6
Norfolk, Va	9.9	9.7	9.2	8.6	8.2	7.7	9.1	9.4	9.3	9.2	9.4	9.0	9.8	10.0	9.4	10.0	10.5	10.7	10.0	8.2	8.3	9.4	9.7	9.5	9.3
Northfield, Vt	6.2	6.5	5.4	5.3	5.8	5.5	5.5	6.5	8.3	10.0	11.7	11.1	12.5	12.4	12.0	10.9	10.2	9.0	7.6	6.3	6.5	7.1	7.0	6.6	8.2
North Platte, Nebr	10.6	11.1	10.7	9.5	8.3	7.0	7.1	7.7	9.9	11.1	12.1	12.6	12.6	14.2	15.3	15.9	15.3	14.6	15.9	15.9	14.4	13.1	12.2	10.9	12.0
Oklahoma, Okla	8.3	8.4	8.2	7.9	7.9	8.4	8.3	8.6	10.2	11.2	12.0	12.2	11.8	12.2	12.4	12.8	12.5	12.9	12.3	10.8	8.4	7.5	8.8	8.6	10.1
Omaha, Nebr	5.6	6.1	6.1	5.9	6.0	6.2	6.6	7.4	7.7	8.3	9.0	9.8	10.4	10.6	10.8	11.1	10.5	10.1	10.0	9.1	7.8	6.3	6.3	6.1	8.1

TABLE VII.—*Average wind movement, etc.*—Continued.

Stations.	1 a. m.	2 a. m.	3 a. m.	4 a. m.	5 a. m.	6 a. m.	7 a. m.	8 a. m.	9 a. m.	10 a. m.	11 a. m.	Noon.	1 p. m.	2 p. m.	3 p. m.	4 p. m.	5 p. m.	6 p. m.	7 p. m.	8 p. m.	9 p. m.	10 p. m.	11 p. m.	Midnight.	Mean.
Oswego, N. Y	6.5	7.2	7.3	7.4	7.8	7.8	7.5	8.5	8.8	9.3	9.6	9.9	9.7	9.5	8.9	8.4	8.3	7.1	5.9	6.4	6.7	7.1	6.8	6.7	7.9
Palestine, Tex	5.3	5.3	5.0	5.3	5.4	4.7	4.7	5.4	6.6	7.4	7.3	6.9	6.9	7.1	7.3	7.3	6.9	6.7	6.2	6.0	4.6	4.9	5.3	5.2	6.0
Parkersburg, W. Va	3.3	3.1	2.5	2.7	2.6	2.5	2.7	3.1	4.4	4.5	5.2	5.1	5.8	5.6	6.2	6.7	5.9	6.0	4.8	3.5	3.2	3.3	2.8	3.4	4.1
Pensacola, Fla	6.5	6.9	6.4	7.6	7.3	7.2	6.8	7.7	9.1	8.8	9.4	10.4	10.6	11.6	11.9	12.6	13.1	12.4	11.3	9.2	8.1	7.6	6.3	5.6	8.9
Philadelphia, Pa	7.5	7.7	7.7	7.6	6.9	6.9	7.7	9.1	9.2	9.6	9.8	9.7	10.7	11.0	10.9	10.6	11.3	11.1	9.8	8.5	8.4	7.9	8.2	8.0	9.0
Pierre, S. Dak																									
Pikes Peak, Colo	26.7	28.5	31.3	32.4	32.2	32.4	31.7	30.5	29.7	28.6	25.7	22.6	22.3	24.2	23.4	22.8	24.5	24.9	23.9	25.1	24.5	24.3	24.2	25.0	26.7
Pittsburg, Pa	3.4	3.3	3.1	3.2	3.4	2.8	3.3	3.9	4.8	5.8	6.5	7.0	7.7	7.9	7.7	7.5	7.5	7.8	6.5	5.4	4.5	3.7	3.6	3.2	5.1
Port Angeles, Wash	5.4	5.7	5.3	5.1	5.1	4.7	4.4	4.1	3.3	3.3	4.3	4.9	5.2	5.7	6.8	6.2	7.1	7.5	8.5	9.7	9.7	8.3	6.4	5.4	5.9
Port Huron, Mich	7.7	8.1	8.1	8.2	7.4	7.2	6.8	7.4	8.0	8.7	10.3	11.0	12.2	12.8	12.5	12.1	11.1	10.1	8.7	7.3	7.2	7.9	8.0	7.0	9.0
Portland, Me	5.3	5.4	5.1	4.6	4.3	4.7	4.7	5.6	6.3	6.9	8.3	8.7	10.0	10.2	10.1	9.9	9.7	9.3	8.3	7.7	7.2	6.3	5.7	5.6	7.1
Portland, Oreg	8.5	8.9	8.1	6.6	6.0	5.7	5.4	5.0	5.5	6.5	7.9	7.2	7.6	8.1	8.7	8.9	10.2	10.2	10.1	10.3	9.7	9.6	9.4	9.2	8.1
Pueblo, Colo	9.6	8.8	7.9	8.2	6.9	5.7	4.7	4.7	6.3	6.5	7.0	6.5	7.6	9.7	11.3	12.3	13.5	15.2	15.6	14.0	13.3	11.4	10.3	9.7	9.5
Raleigh, N. C	5.1	4.7	4.7	4.5	4.0	4.5	5.1	5.7	6.0	6.4	6.1	6.1	6.8	7.4	7.4	6.8	6.9	6.3	4.9	4.1	4.0	4.3	4.6	5.1	5.5
Rapid City, S. Dak	6.8	6.9	8.2	8.3	9.1	7.9	7.6	7.5	9.5	11.3	12.1	13.8	14.1	14.4	14.3	13.4	13.4	13.1	11.1	11.0	10.2	8.4	7.9	7.4	10.3
Red Bluff, Cal	7.5	7.0	6.4	6.1	5.8	5.4	4.7	4.9	5.2	6.0	7.8	7.8	7.4	7.1	7.3	8.0	8.3	7.7	7.8	7.8	7.9	8.2	7.4	7.4	7.0
Rochester, N. Y	5.5	5.7	5.7	6.0	5.9	6.2	6.5	7.6	7.8	8.5	8.7	9.1	10.1	10.0	9.8	9.6	9.0	8.6	7.1	6.1	6.2	6.2	5.6	5.4	7.4
Roseburg, Oreg	2.6	2.0	1.6	1.8	1.5	1.4	1.4	1.4	1.7	2.3	2.7	3.2	3.8	4.1	4.7	5.2	5.8	7.0	7.2	7.2	7.2	6.9	5.2	3.7	3.8
Sacramento, Cal	9.6	9.6	9.1	9.5	9.0	8.9	8.9	8.8	8.3	8.6	8.6	8.6	9.1	9.5	9.7	10.1	10.4	10.9	12.0	12.2	12.0	11.8	11.2	10.4	9.9
St. Louis, Mo	8.5	8.7	8.3	8.4	8.4	7.9	7.9	8.5	8.8	10.2	10.1	10.4	11.0	12.1	12.8	12.7	13.0	12.3	11.0	10.0	9.1	8.8	9.3	9.4	9.9
St. Paul, Minn	4.2	4.2	3.9	4.0	4.5	4.7	4.4	4.8	5.8	6.5	8.1	9.0	10.2	10.4	10.5	10.9	10.9	10.8	9.8	8.3	6.3	6.4	6.2	5.7	7.1
St. Vincent, Minn	7.2	7.2	7.2	7.4	7.1	7.2	7.4	7.6	8.4	9.1	10.2	11.3	12.0	13.4	13.3	13.0	12.1	11.5	11.3	9.6	7.6	6.6	6.8	7.9	9.3
Salt Lake City, Utah	5.0	5.2	5.1	4.9	4.4	4.4	4.8	4.3	4.3	4.9	5.9	7.3	9.0	9.4	10.2	10.3	9.9	9.7	9.7	9.2	6.7	5.5	5.8	5.3	6.7
San Antonio, Tex																									
San Diego, Cal	2.7	2.9	3.2	3.4	3.2	3.4	3.2	3.2	3.1	3.4	3.9	5.1	7.2	8.6	9.4	9.8	9.6	9.4	9.1	8.4	7.4	5.7	4.6	3.5	5.6
Sandusky, Ohio	5.8	6.2	5.9	5.7	5.7	5.9	6.1	6.6	7.0	7.5	7.6	7.9	7.9	8.6	8.1	8.3	7.7	7.2	5.7	5.4	5.8	5.7	5.8	5.7	6.7
San Francisco, Cal	13.2	12.3	10.9	10.4	9.8	9.5	8.5	8.2	8.2	8.1	9.5	9.8	10.5	12.9	16.6	19.7	21.7	22.7	22.8	22.7	21.2	19.1	17.6	14.8	14.2
Santa Fe, N. Mex	8.3	7.9	7.5	7.4	6.8	6.0	5.6	5.4	5.4	6.2	7.7	9.1	9.6	11.6	12.3	12.1	12.9	12.4	13.0	12.9	11.1	8.2	7.7	8.0	9.0
Sault Ste. Marie, Mich.	3.5	3.5	3.8	3.7	4.4	4.5	4.7	5.1	6.0	7.5	8.3	9.6	9.3	10.4	11.4	11.3	11.5	11.3	9.5	8.1	6.2	5.3	4.0	3.9	6.9
Savannah, Ga	5.5	5.6	5.6	5.1	4.6	5.2	5.2	5.7	6.1	6.6	6.7	7.3	8.0	8.6	9.6	10.2	11.3	10.9	9.5	7.7	7.0	6.8	6.3	6.1	7.1
Seattle, Wash	5.3	5.6	5.2	4.6	4.5	5.0	4.6	4.3	4.8	5.0	4.9	5.5	5.7	5.9	6.4	7.3	7.5	7.4	7.8	7.6	7.5	7.1	6.3	5.8	5.9
Shreveport, La	5.1	4.7	4.8	4.2	4.2	3.9	4.0	4.2	5.7	6.3	7.0	7.2	7.3	7.1	6.7	7.5	7.7	7.9	6.7	6.1	5.2	5.3	6.1	6.0	5.9
Sioux City, Iowa	8.8	8.6	8.4	7.9	8.1	8.4	8.8	9.8	9.9	11.5	14.0	15.1	15.5	17.2	17.5	16.8	17.1	15.7	14.4	13.0	11.6	10 2	8.8	9.4	11.9
Southport, N. C	9.9	9.6	9.1	9.6	9.1	8.7	8.2	8.9	9.0	9.5	10.5	11.8	12.8	14.0	15.3	16.3	16.2	15.6	14.8	14.6	14.2	13.6	12.4	11.4	11.9
Spokane, Wash	6.2	6.6	6.5	6.2	6.6	6.2	6.6	6.8	7.2	7.5	8.1	7.9	8.1	7.9	8.6	9.2	9.8	9.6	10.2	8.9	8.4	7.4	6.2	5.8	7.6
Springfield, Ill	6.2	5.9	5.6	5.9	6.2	5.9	6.3	6.3	7.1	7.9	8.2	8.2	9.4	9.3	9.3	9.9	9.9	9.4	8.1	6.4	5.2	5.9	6.7	6.7	7.3
Springfield, Mo	7.6	8.0	7.3	7.1	6.9	7.0	6.6	6.9	8.0	9.5	10.3	11.0	11.7	11.8	11.7	11.7	12.3	12.0	10.5	8.4	6.9	7.0	7.7	7.6	9.0
Tampa, Fla	3.7	3.7	4.0	4.2	4.1	4.4	4.1	4.8	5.9	5.8	6.1	6.6	7.2	7.0	8.3	8.0	8.2	7.5	6.8	5.1	4.6	4.2	3.8	3.5	5.5
Tatoosh Island, Wash	8.8	9.1	9.7	9.5	10.1	9.4	9.2	9.0	9.1	9.9	10.6	10.0	9.2	10.1	10.4	10.5	10.6	10.8	10.4	10.5	10.4	10.4	10.4	10.6	9.9
Titusville, Fla	8.0	7.3	6.9	6.5	6.7	6.5	7.1	8.0	9.6	10.5	11.6	13.2	13.6	14.6	14.8	14.9	15.6	14.1	13.9	11.2	10.0	10.4	8.8	8.6	10.5
Toledo, Ohio	6.9	6.8	6.2	6.4	6.6	6.9	6.5	7.0	7.8	8.1	9.1	9.7	10.8	10.7	10.6	10.9	10.5	9.9	7.7	6.6	6.5	6.2	6.4	6.9	8.0
Tucson, Ariz	6.8	5.9	5.6	4.7	4.4	4.7	5.6	5.0	4.3	4.3	4.0	4.4	5.4	6.7	8.3	9.9	10.9	11.4	12.4	12.1	13.2	10.6	8.5	7.0	7.3
Valentine, Nebr	9.8	9.8	9.4	9.0	9.0	8.7	8.3	8.4	9.1	10.8	12.3	14.0	15.5	15.5	15.9	16.9	17.1	17.6	17.4	18.3	16.9	14.6	11.8	10.8	12.8
Vicksburg, Miss	5.2	5.1	5.2	5.2	4.7	4.6	4.5	4.8	5.5	5.7	5.9	6.3	7.2	7.4	7.3	7.2	7.2	6.8	6.2	5.3	4.0	4.5	5.0	5.1	5.7
Vineyard Haven, Mass	8.6	8.7	8.8	8.4	8.2	8.2	8.7	9.3	10.1	10.7	10.9	11.2	11.4	12.2	12.7	12.3	11.8	10.7	10.0	9.9	9.6	9.4	9.5	8.7	10.0
Walla Walla, Wash	6.6	6.7	6.7	6.5	5.8	6.1	5.7	5.8	5.9	7.3	8.1	8.6	8.4	8.4	8.6	8.9	8.8	8.7	8.7	8.6	9.1	7.9	6.2	6.8	7.5
Washington, D. C	4.1	4.0	3.8	3.8	3.9	3.5	4.5	5.8	6.4	6.6	7.4	7.7	7.9	8.2	7.6	7.4	7.1	6.2	5.1	4.0	4.0	3.8	3.4	3.7	5.4
Wichita, Kans	6.9	7.0	6.5	6.1	6.0	6.8	6.4	7.4	8.1	9.2	9.9	11.0	10.5	11.3	11.4	11.4	11.7	11.1	10.1	9.3	8.9	8.9	7.4	7.0	8.8
Williston, N. Dak	8.2	8.6	8.5	9.2	8.7	7.6	6.5	8.0	10.1	12.2	12.2	13.0	14.0	15.2	14.7	14.6	13.9	13.9	12.9	11.7	9.3	8.2	9.4	8.5	10.8
Wilmington, N. C	6.4	6.6	6.2	6.0	5.9	5.1	5.5	6.8	7.2	7.2	7.4	8.1	9.4	10.8	11.7	13.2	12.9	12.2	10.9	9.2	8.2	7.9	7.5	7.1	8.3
Winnemucca, Nev	8.8	7.7	7.3	7.4	7.8	8.4	7.8	7.7	7.7	8.3	10.5	10.0	10.3	10.9	11.5	11.6	12.5	12.1	11.7	11.4	10.2	8.8	8.1	8.9	9.5
Woods Holl, Mass	14.6	14.0	12.8	12.4	11.9	11.5	11.2	13.1	13.2	13.4	14.5	15.1	16.3	17.6	18.2	18.3	17.2	16.5	15.8	15.2	14.2	14.6	14.8	14.7	14.6
Yuma, Ariz	7.6	7.3	7.0	6.7	6.4	5.2	4.1	3.3	3.3	3.9	5.8	6.8	7.3	7.9	7.7	8.0	8.2	8.8	9.3	9.8	10.9	10.2	8.9	7.7	7.2

TABLE VIII.—*Prevailing and resultant winds from self-registers for June, 1894.*

Number.	Station.	Prevailing wind.		Total movement.		Resultant direction.			Resultant movement.		Azimuth of movement minus direction.	Ratio of resultant movement to total movement.
		Direction from.	Duration.	Monthly.	Hourly average.	Direction from.	Duration.	Average hourly velocity.	Direction from.	Amount.		
	(1)	(2)	(3) Hours.	(4) Miles.	(5) Miles.	(6)	(7) Hours.	(8) Miles.	(9)	(10) Miles.	(11) °	(12)
1	Eastport, Me	sw.	283	5,029	7.0	s. 28 w.	320	8.0	s. 23 w.	2,555	— 5	0.508
2	Portland, Me	s.	226	5,101	7.1	s. 8 w.	249	9.8	s. 2 w.	2,428	— 6	0.476
4	Boston, Mass	sw.	271	7,594	10.5	s. 66 w.	318	12.5	s. 62 w.	3,966	— 4	0.522
6	Nantucket, Mass	w.	246	7,511	10.4	s. 83 w.	438	10.2	s. 79 w.	4,482	— 4	0.597
8	New Haven, Conn	sw.	260	5,093	7.1	s. 47 w.	352	7.2	s. 46 w.	2,522	— 1	0.495
10	Albany, N. Y	s.	299	4,773	6.6	s. 22 w.	313	7.2	s. 16 w.	2,241	— 6	0.470
11	New York, N. Y	sw.	232	6,223	8.6	s. 30 w.	319	9.4	s. 37 w.	2,988	+ 7	0.480
13	Philadelphia, Pa	sw.	220	6,478	9.0	s. 68 w.	258	10.3	s. 68 w.	2,666	0	0.410
15	Baltimore, Md	sw.	166	4,654	6.5	s. 72 w.	219	7.2	s. 77 w.	1,575	+ 5	0.338
16	Washington, D. C	sw.	151	3,896	5.4	s. 64 w.	190	5.9	s. 69 w.	1,115	+ 5	0.286
17	Lynchburg, Va	sw.	151	2,736	3.8	s. 61 w.	157	4.9	s. 75 w.	768	+ 14	0.281
18	Norfolk, Va	sw.	248	6,724	9.3	s. 30 w.	270	11.8	s. 32 w.	3,189	+ 2	0.473
24	Wilmington, N. C	sw.	345	5,987	8.3	s. 32 w.	411	8.7	s. 29 w.	3,562	— 3	0.595
26	Augusta, Ga	se.	161	3,346	4.6	s. 11 e.	238	4.6	s. 9 e.	1,093	+ 2	0.327
27	Savannah, Ga	s.	296	5,136	7.1	s. 10 e.	398	6.8	s. 14 e.	2,695	— 4	0.525
28	Jacksonville, Fla	se.	182	5,072	7.0	s. 53 e.	299	7.8	s. 54 e.	2,325	— 1	0.458
30	Key West, Fla	e.	382	6,133	8.5	s. 73 e.	396	9.5	s. 76 e.	3,747	— 3	0.611
33	Atlanta, Ga	sw.	130	5,569	7.7	s. 52 w.	96	10.0	s. 60 w.	959	+ 8	0.172
38	Vicksburg, Miss	w.	167	4,079	5.7	s. 38 w.	88	7.2	s. 15 w.	631	— 23	0.155
39	New Orleans, La	ne.	141	4,084	5.7	s. 56 e.	185	5.1	s. 78 e.	944	— 22	0.231
42	Little Rock, Ark	sw.	213	4,461	6.2	s. 27 w.	248	7.2	s. 26 w.	1,794	— 1	0.402
44	Galveston, Tex	s.	270	7,750	10.8	s. 28 e.	519	10.8	s. 30 e.	5,588	— 2	0.721
48	Knoxville, Tenn	sw.	205	3,250	4.5	n. 83 w.	106	7.5	s. 73 w.	793	— 24	0.244
49	Memphis, Tenn	w.	131	4,201	5.9	s. 2 7w.	186	6.7	s. 29 w.	1,259	+ 2	0.295
50	Nashville, Tenn	sw.	170	3,377	4.7	s. 32 w.	115	6.8	s. 51 w.	782	+ 19	0.232
52	Louisville, Ky	s.	199	4,384	6.1	s. 9 w.	169	6.8	s. 26 w.	1,141	+ 17	0.260
53	Indianapolis, Ind	sw.	133	3,410	4.7	s. 49 w.	200	5.1	s. 53 w.	1,014	+ 4	0.297
54	Cincinnati, Ohio	se.	164	4,057	5.6	s. 13 w.	195	6.2	s. 54 w.	1,202	+ 41	0.296
55	Columbus, Ohio	w.	134	5,221	7.3	s. 54 w.	138	11.7	s. 75 w.	1,613	+ 21	0.309
56	Pittsburg, Pa	nw.	182	3,706	5.1	n. 72 w.	253	6.3	n. 81 w.	1,591	— 9	0.429
58	Buffalo, N. Y	sw.	323	6,965	9.7	s. 62 w.	512	10.8	s. 66 w.	5,544	+ 4	0.796
60	Rochester, N. Y	sw.	352	5,298	7.4	s. 58 w.	462	8.1	s. 62 w.	3,756	+ 4	0.709
62	Cleveland, Ohio	se.	193	6,780	9.4	s. 31 w.	134	14.3	s. 31 w.	1,922	0	0.283
64	Toledo, Ohio	w.	248	5,750	8.0	s. 78 w.	241	10.1	s. 81 w.	2,444	+ 3	0.425
65	Detroit, Mich	sw.	275	6,513	9.0	s. 60 w.	310	11.7	s. 66 w.	3,638	+ 6	0.559
66	Alpena, Mich	se.	178	5,612	7.8	s. 53 w.	56	9.7	n. 62 w.	544	+ 65	0.097
67	Grand Haven, Mich	sw.	238	5,582	7.8	s. 67 w.	338	8.4	s. 74 w.	2,851	+ 7	0.511
68	Marquette, Mich	n.	172	5,637	7.8	n. 27 w.	170	8.8	n. 79 w.	1,491	— 52	0.264
70	Sault Ste. Marie, Mich	nw.	201	4,997	6.9	n. 78 w.	98	14.0	n. 63 w.	1,372	+ 15	0.275
71	Chicago, Ill	sw.	162	10,654	14.8	s. 36 w.	196	14.4	s. 41 w	2,826	+ 5	0.265
72	Milwaukee, Wis	sw.	145	6,240	8.7	s. 14 w.	150	7.9	s. 35 w.	1,182	+ 21	0.189
74	Duluth, Minn	e.	193	4,278	5.9	n. 33 e.	157	8.9	n. 19 w.	1,392	— 52	0.325
75	Moorhead, Minn	s.	205	8,796	12.2	s. 10 e.	200	17.9	s. 18 e.	3,680	— 8	0.418
77	Bismarck, N. Dak	se.	182	7,388	10.3	s. 35 e.	158	11.4	s. 16 e.	1,799	+ 19	0.244
79	Saint Paul, Minn	se.	304	5,111	7.1	s. 23 e.	326	7.3	s. 17 e.	2,370	+ 6	0.464
81	Davenport, Iowa	sw.	244	5,513	7.7	s. 30 w.	269	7.3	s. 37 w.	1,966	+ 7	0.357
82	Des Moines, Iowa	sw.	169	5,295	7.4	s. 32 w.	235	10.4	s. 29 w.	2,436	— 3	0.460
88	Saint Louis, Mo	s.	250	7,129	9.9	s. 15 w.	322	11.0	s. 20 w.	3,553	+ 5	0.498
90	Kansas City, Mo	s.	249	5,962	8.3	s. 19 e.	307	9.9	s. 16 e.	3,044	+ 3	0.511
92	Omaha, Nebr	se.	241	5,816	8.1	s. 16 e.	299	10.3	s. 20 e.	3,065	— 4	0.527
96	Huron, S. Dak	se.	292	11,517	16.0	s. 34 e.	276	22.7	s. 31 e.	6,251	+ 3	0.543
98	Havre, Mont	sw.	198	6,756	9.4	s. 74 w.	272	9.7	s. 71 w.	2,637	— 3	0.390
100	Helena, Mont	sw.	300	5,708	7.9	s. 74 w.	367	9.5	s. 66 w.	3,470	— 8	0.608
106	Colorado Springs, Colo	n.	214	7,417	10.3	s. 51 e.	48	31.7	s. 6 w.	1,522	+ 57	0.205
107	Denver, Colo	s.	210	5,946	8.3	s. 17 w.	218	8.0	s. 5 w.	1,753	— 12	0.295
108	Pikes Peak, Colo	sw.	271	19,241	26.7	s. 52 w.	399	34.8	s. 56 w.	13,898	+ 4	0.722
111	Dodge City, Kans	se.	294	10,882	15.1	s. 40 e.	434	17.5	s. 27 e.	7,614	+ 13	0.700
114	Abilene, Tex	sw.	327	8,495	11.8	s. 4 w.	385	12.8	s. 5 w.	4,922	+ 1	0.580
116	El Paso, Tex	w.	195	6,547	9.1	n. 76 w.	147	17.5	n. 74 w.	2,593	+ 2	0.396
117	Santa Fe, N. Mex	sw.	251	6,451	9.0	e.	324	10.9	s. 5 w.	3,515	+ 95	0.545
119	Yuma, Ariz	w.	173	5,158	7.2	s. 80 w.	275	9.9	s. 82 w.	2,733	+ 2	0.530
122	Salt Lake City, Utah	se.	182	4,836	6.7	s. 45 e.	155	5.1	s. 4 w.	792	+ 49	0.164
125	Spokane, Wash	sw.	226	5,474	7.6	s. 8 w.	285	11.4	s. 19 w.	3,261	+ 11	0.596
130	Seattle, Wash	se.	290	4,243	5.9	s. 16 e.	176	8.8	s. 27 e.	1,545	— 11	0.364
132	Portland, Oregon	nw.	229	5,797	8.1	n. 75 w.	265	8.6	s. 89 w.	2,279	— 16	0.393
133	Roseburg, Oregon	nw.	181	2,749	3.8	n. 48 w.	258	5.2	n. 44 w.	1,354	+ 4	0.493
137	San Francisco, Cal	sw.	510	10,218	14.2	s. 35 w.	594	15.4	s. 40 w.	9,138	+ 5	0.894
140	San Diego, Cal	w.	325	4,002	5.6	s. 86 w.	464	6.6	s. 86 w.	3,042	0	0.760

TABLE IX.—*Resultant winds from observations at 8 a. m. and 8 p. m., daily, during June, 1894.*

Number.	Station.	Component direction from—				Resultant.	
		N.	S.	E.	W.	Direction from—	Duration.
	New England.	*Hours.*	*Hours.*	*Hours.*	*Hours.*	°	*Hours.*
1	Eastport, Me	10	29	10	23	s. 34 w.	23
2	Portland, Me	9	29	13	22	s. 24 w.	22
3	Northfield, Vt	15	37	5	11	s. 15 w.	23
4	Boston, Mass	8	23	9	35	s. 60 w.	30
5	Nantucket, Mass	10	17	6	39	s. 78 w.	34
6	Woods Holl, Mass	2	17	3	18	s. 45 w.	21
7	Block Island, R. I	7	26	5	40	s. 61 w.	40
8	New Haven, Conn	13	30	7	25	s. 47 w.	25
9	New London, Conn	10	26	7	29	s. 54 w.	27
	Middle Atlantic States.						
10	Albany, N. Y	10	34	7	16	s. 21 w.	26
11	New York, N. Y	9	30	12	25	s. 31 w.	25
12	Harrisburg, Pa	14	14	10	31	.. .. w.	21
13	Philadelphia, Pa	15	23	11	29	s. 66 w.	20
14	Atlantic City, N. J	12	30	5	27	s. 51 w.	28
15	Baltimore, Md	14	24	10	25	s. 56 w.	18
16	Washington, D. C	16	25	12	24	s. 53 w.	15
17	Lynchburg, Va	15	21	13	27	s. 67 w.	15
18	Norfolk, Va	11	30	11	23	s. 32 w.	22
	South Atlantic States.						
19	Charlotte, N. C	7	31	16	25	s. 21 w.	26
20	Hatteras, N. C	8	34	7	25	s. 35 w.	32
21	Kittyhawk, N. C	10	26	13	30	s. 47 w.	23
22	Raleigh, N. C	14	34	6	17	s. 29 w.	23
23	Southport, N. C	10	28	8	34	s. 55 w.	32
24	Wilmington, N. C	7	33	7	29	s. 40 w.	34
25	Charleston, S. C	6	38	11	19	s. 14 w.	33
26	Augusta, Ga	10	30	18	13	s. 14 e.	21
27	Savannah, Ga	5	41	14	9	s. 8 e.	36
28	Jacksonville, Fla	12	26	27	10	s. 51 e.	22
	Florida Peninsula.						
29	Jupiter, Fla	9	25	31	9	s. 54 e.	27
30	Key West, Fla	6	15	40	6	s. 75 e.	35
31	Tampa, Fla	16	12	33	8	n. 81 e.	25
32	Titusville, Fla	10	22	28	9	s. 58 e.	22
	Eastern Gulf States.						
33	Atlanta, Ga	19	17	16	24	n. 76 w.	8
34	Pensacola, Fla	11	27	15	23	s. 27 w.	18
35	Mobile, Ala	18	25	11	15	s. 30 w.	8
36	Montgomery, Ala	18	16	19	21	n. 45 w.	3
37	Meridian, Miss	14	24	15	25	s. 45 w.	14
38	Vicksburg, Miss	10	16	20	22	s. 18 w.	6
39	New Orleans, La	13	26	23	13	s. 38 e.	16
	Western Gulf States.						
40	Shreveport, La	8	31	25	7	s. 38 e.	29
41	Fort Smith, Ark	7	21	30	8	s. 58 e.	26
42	Little Rock, Ark	9	31	14	21	s. 18 w.	23
43	Corpus Christi, Tex	4	38	41	2	s. 49 e.	52
44	Galveston, Tex	3	41	24	7	s. 24 e.	42
45	Palestine, Tex	6	31	20	17	s. 7 e.	25
46	San Antonio, Tex	.....	.....	.....	.....	.....	.....
	Ohio Valley and Tennessee.						
47	Chattanooga, Tenn	16	22	11	22	s. 61 w.	12
48	Knoxville, Tenn	17	18	16	23	s. 82 w.	7
49	Memphis, Tenn	8	25	15	24	s. 28 w.	19
50	Nashville, Tenn	13	21	17	24	s. 41 w.	11
51	Lexington, Ky	10	31	15	22	s. 18 w.	22
52	Louisville, Ky	15	29	14	15	s. 4 w.	14
53	Indianapolis, Ind	15	26	14	22	s. 36 w.	14
54	Cincinnati, Ohio	12	26	22	21	s. 4 e.	14
55	Columbus, Ohio	12	25	16	20	s. 17 w.	14
56	Pittsburg, Pa	24	17	9	24	n. 65 w.	17
57	Parkersburg, W. Va	9	30	23	12	s. 28 e.	24
	Lower Lake Region.						
58	Buffalo, N. Y	4	31	2	40	s. 54 w.	47
59	Oswego, N. Y	5	21	5	34	s. 61 w.	33
60	Rochester, N. Y	5	28	5	37	s. 54 w.	39
61	Erie, Pa	8	26	6	32	s. 55 w.	32
62	Cleveland, Ohio	13	24	17	21	s. 20 w.	12
63	Sandusky, Ohio	11	16	18	26	s. 58 w.	9
64	Toledo, Ohio	9	14	14	34	s. 76 w.	21
65	Detroit, Mich	8	26	11	33	s. 51 w.	28
	Upper Lake Region.						
66	Alpena, Mich	18	18	17	24	.. .. w.	7
67	Grand Haven, Mich	12	21	8	29	s. 67 w.	3
68	Marquette, Mich	23	18	9	20	n. 66 w.	12
69	Port Huron, Mich	14	26	11	21	s. 40 w.	16
70	Sault Ste. Marie, Mich	12	17	19	28	s. 61 w.	10
71	Chicago, Ill	11	27	15	22	s. 24 w.	18
72	Milwaukee, Wis	13	23	17	23	s. 31 w.	12
73	Green Bay, Wis	12	36	7	12	s. 12 w.	24
74	Duluth, Minn	22	7	24	17	n. 25 e.	17
	North Dakota.						
75	Moorhead, Minn	13	31	16	12	s. 13 e.	18
76	Saint Vincent, Minn	16	28	17	14	s. 14 e.	12
77	Bismarck, N. Dak	15	22	23	12	s. 58 e.	13
78	Williston, N. Dak	.....	.....	.....	.....	.....	.....
	Upper Mississippi Valley.						
79	Saint Paul, Minn	7	32	26	14	s. 26 e.	28
80	La Crosse, Wis	13	38	8	10	s. 5 w.	25
81	Davenport, Iowa	9	28	15	23	s. 23 w.	21
82	Des Moines, Iowa	11	30	8	18	s. 28 w.	22
83	Dubuque, Iowa	.....	.....	.....	.....	.....	.....
84	Keokuk, Iowa	6	34	8	24	s. 30 w.	32
85	Cairo, Ill	13	33	10	18	s. 22 w.	22
86	Springfield, Ill	9	28	9	18	s. 25 w.	21
87	Hannibal, Mo	9	29	12	23	s. 29 w.	23
88	Saint Louis, Mo	12	29	10	16	s. 19 w.	18
	Missouri Valley.						
89	Columbia, Mo	6	16	9	7	s. 11 e.	10
90	Kansas City, Mo	10	39	16	5	s. 21 e.	31
91	Springfield, Mo	5	38	19	12	s. 12 e.	34
92	Omaha, Nebr	8	35	16	13	s. 6 e.	27
93	Valentine, Nebr	11	32	14	14	s.	21
94	Sioux City Iowa	13	36	9	9	s.	23
95	Pierre, S. Dak	.....	.....	.....	.....	.....	.....
96	Huron, S. Dak	14	30	22	11	s. 34 e.	19
	Northern Slope.						
98	Havre, Mont	16	18	9	30	s. 85 w.	21
99	Miles City, Mont	22	13	15	23	n. 42 w.	12
100	Helena, Mont	6	24	6	39	s. 61 w.	38
101	Rapid City, S. Dak	15	22	15	20	s. 36 w.	9
102	Cheyenne, Wyo	21	23	7	22	s. 82 w.	15
103	Lander, Wyo	14	22	7	31	s. 72 w.	25
105	North Platte, Nebr	11	30	15	18	s. 9 w.	19
	Middle Slope.						
106	Colorado Springs, Colo	27	21	10	9	n. 9 e.	6
107	Denver, Colo	13	30	8	21	s. 38 w.	22
108	Pikes Peak, Colo	8	25	8	36	s. 59 w.	33
109	Pueblo, Colo	18	18	15	25	w.	10
110	Concordia, Kans	6	39	9	12	s. 5 w.	33
111	Dodge City, Kans	7	36	27	4	s. 38 e.	37
112	Wichita, Kans	9	37	15	9	s. 30 e.	32
113	Oklahoma, Okla	6	45	15	8	s. 10 e.	40
	Southern Slope.						
114	Abilene, Tex	4	34	16	24	s. 15 w.	31
115	Amarillo, Tex	5	41	13	10	s. 5 e.	36
	Southern Plateau.						
116	El Paso, Tex	15	11	15	32	n. 77 w.	18
117	Santa Fe, N. Mex	6	33	22	22	s.	27
118	Tucson, Ariz	6	29	15	27	s. 28 w.	26
119	Yuma, Ariz	13	18	12	32	s. 76 w.	21
	Middle Plateau.						
121	Winnemucca, Nev	11	25	13	24	s. 36 w.	18
122	Salt Lake City, Utah	19	25	16	13	s. 27 e.	7
	Northern Plateau.						
123	Baker City, Oreg	32	13	7	29	n. 49 w.	29
124	Idaho Falls, Idaho	14	34	8	16	s. 22 w.	22
125	Spokane, Wash	7	32	17	19	s. 5 w.	25
126	Walla Walla, Wash	6	40	5	18	s. 21 w.	36
	North Pacific Coast Region.						
127	Fort Canby, Wash	15	14	8	32	n. 88 w.	24
129	Port Angeles, Wash	5	15	9	36	s. 70 w.	29
130	Seattle, Wash	10	24	21	15	s. 23 e.	15
131	Tatoosh Island, Wash	4	27	13	30	s. 36 w.	29
132	Portland, Oreg	29	17	4	26	n. 61 w.	25
133	Roseburg, Oreg	25	10	12	26	n. 43 w.	20
	Middle Pacific Coast Region.						
134	Eureka, Cal	30	13	4	30	n. 57 w.	31
135	Red Bluff, Cal	16	25	19	16	s. 18 e.	10
136	Sacramento, Cal	7	41	9	19	s. 16 w.	35
137	San Francisco, Cal	1	44	1	31	s. 35 w.	52
	South Pacific Coast Region.						
138	Fresno, Cal	37	5	3	38	n. 48 w.	47
139	Los Angeles, Cal	7	7	23	29	.. .. w.	6
140	San Diego, Cal	12	14	5	39	s. 87 w.	34

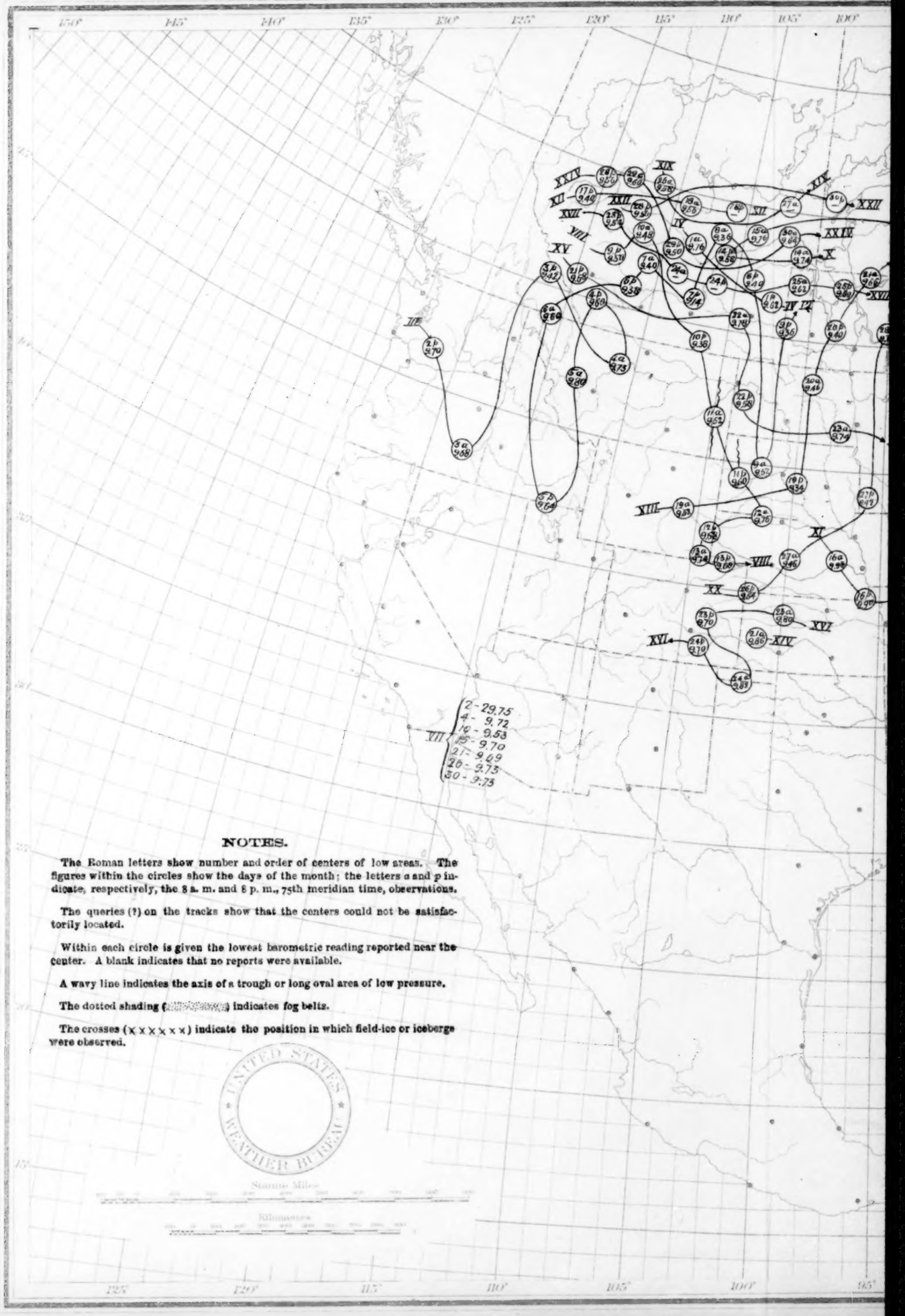
STATE WEATHER SERVICES.

The following table summarizes the more prominent climatological features given in the reports for June by the directors of the respective State Weather Services:

State.	Temperature.											Precipitation.					Director.
							Monthly ranges.						Maximum.		Minimum.		
	Mean departure.	Maximum.	Date.	Station.	Minimum.	Date.	Station.	Greatest.	Station.	Least.	Station.	Mean departure.	Amount.	Station.	Amount.	Station.	
	°	°			°			°		°		*Inches.*	*Inches*		*Inches*		
Alabama	−0.6	102	30	Pine Apple	39	1	Valley Head	61	Newburg	34	Elba	−2.66	6.28	Gadsden	0.18	Opelika	F. P. Chaffee.
Alaska																	Not yet organized.
Arizona	−3.0	112	30	Parker	31	7	Keams Canyon	68	San Carlos	44	Fort Bowie	−0.40	0.13	Holbrook	0.00	Bisbee†	W. R. Burrows.
Arkansas	0.0	106	30	Hot Springs†	42	1	Keesees Ferry	60	Hot Springs†	41	Winslow	−2.86	3.93	Hamburg	T.	Mount Nebo	F. H. Clarke.
California	−4.3	118	30	Salton	25	11	Boca	66	Orangevale	18	Point Lobos	+0.36	3.49	La Porte	0.00	Anaheim†	J. A. Barwick.
Colorado	−1.0	105	30	Cheyenne Wells	18	8	Climax	67	Delta†	30	Surface Creek	−0.66	4.59	Table Rock	0.00	Arboles†	F. H. Brandenburg.
Connecticut	+0.8	95	23	Norwalk	36	*	Voluntown	55	Voluntown	42	New Hartford	−2.54	1.77	New Hartford	0.31	Hartford	J. Warren Smith.
Delaware	+0.4	102	24	Wilmington	44	15	Millsboro	55	Wilmington	46	Dover	−1.12	4.01	Millsboro	1.16	Seaford	C. P. Cronk.
District of Columbia																	See Maryland.
Florida	−2.8	101	30	Pensacola	56	*	New Smyrna†	41	Pensacola	18	Key West†	+0.33	15.55	Myers	0.87	Pensacola	E. R. Demain.
Georgia	+0.2	104	30	Albany	39	1	Dahlonega	59	Dahlonega	38	Way Cross†	−1.85	9.12	Augusta	0.65	Gillsville	Park Morrill.
Idaho		96	*	Garden Valley†	27	12	Idaho City	66	Garden Valley	44	Kootenai		4.65	Grangeville	0.19	Boise Barracks	J. H. Smith.
Illinois	+4.2	103	*	Bloomington†	31	6	Bloomington†	72	Bloomington	44	Herrins Prairie	−2.49	4.91	Clear Creek	0.46	Albion	John Craig.
Indiana	+1.4	105	12	Vincennes	33	7	Lafayette	68	Vincennes	46	New Albany	−1.50	5.46	Cambridge City	0.69	Hammond	Prof. H. A. Huston.
Indian Territory																	See Oklahoma.
Iowa	+4.0	104	29	Glenwood	34	6	Mason City†	66	Carroll	40	Mount Pleasant	−2.28	6.20	Sac City	0.57	Washington	J. G. Sage.
Kansas	+0.7	110	30	Lakin	31	6	Hays City	74	Eureka Ranch	43	Fort Riley	+1.44	14.98	Mount Hope	1.31	Ness City	T. B. Jennings.
Kentucky	+0.6	104	23	Bowling Green	35	1	Eubank	64	Middlesboro	41	Greendale	−1.60	5.18	Eubank	0.86	Blandville	Frank Burke.
Louisiana	+1.2	101	30	Minden†	43	2	Natchitoches	55	Natchitoches	18	Port Eads	−1.83	10.08	Lake Charles	0.66	Bastrop	R. E. Kerkam.
Maine	−1.6	94	17	Portland	29	6	Fort Kent	59	Fort Kent	30	Eastport	−1.69	6.45	Mayfield	1.18	Gardiner	J. Warren Smith.
Maryland	−0.6	104	25	Benedict	32	7	Sunnyside	58	Benedict†	41	Rec'g Res., D. C.†	−1.56	4.45	Oakland	0.87	Solomons	Dr. W. B. Clark.
Massachusetts	+1.3	98	17	North Billerica†	32	9	Adams	63	Lake Cochituate	33	Woods Holl	−2.14	3.43	Amherst	0.20	Chestnut Hill	J. Warren Smith.
Michigan	+2.3	101	*	Berlin	29	6	Grayling	70	Berlin	47	Cheboygan	−1.09	7.19	Alpena	1.07	Calumet	E. A. Evans.
Minnesota	+6.7	100	30	Bingham Lake†	28	*	Marfield†	67	Beardsley	42	St. Cloud	−1.56	7.99	Grand Meadow	0.26	Mazeppa	E. A. Beals.
Mississippi	−1.7	107	29	Columbus	39	1	French Camps	62	Columbus	37	Fayette	−1.88	6.78	Brookhaven	0.30	Greenville†	R. J. Hyatt.
Missouri	+0.9	105	*	Neosho†	35	1	Grovedale	68	Grovedale	32	Gorin	−0.91	9.78	Boonville	1.12	St. Louis	A. E. Hackett.
Montana	−2.0	93	3	Columbia Falls†	25	1	Fort Keogh	66	Fort Keogh	44	Miles City	+0.33	4.72	Martinsdale	1.52	Fort Keogh	J. M. Sherier.
Nebraska	+1.7	112	30	Santee Agency	30	1	Ansley	75	Beaver City†	36	David City	−0.86	9.53	Crete	0.62	Santee Agency	G. A. Loveland.
Nevada	−5.2	92	*	Belleville†	20	12	McGill	69	McGill	46	Osceola	+0.54	3.27	Virginia City	0.00	Mill City†	Prof. C. W. Friend.
New Hampshire	+0.4	96	17	Nashua	30	7	West Milan	60	Plymouth	47	Dublin	−1.83	4.58	West Milan	0.34	Nashua	J. Warren Smith.
New Jersey	+1.2	102	23	Somerville†	35	6	Tenafly	63	Imlaystown	43	Atlantic City	−1.70	5.90	Plainfield	0.99	Millville	E. W. McGann.
New Mexico		107	24	Rincon	30	8	Hot Springs	65	Rincon†	41	Galisteo		4.10	Halls Peak	0.00	Alma†	H. B. Hersey.
New York	+1.2	98	24	Eden Center†	28	8	South Kortright	68	Eden Center	45	Setauket	−0.72	6.32	Bovina Center	0.86	New York	Prof. E. A. Fuertes.
North Carolina	0.0	104	28	Chapel Hill	34	1	Waynesville	64	Soapstone Mount	26	Hatteras	−1.72	7.71	Murphy	0.70	Selma	Dr. H. B. Battle.
North Dakota	+5.2	103	22	Lemert	25	4	Lemert	78	Lemert	48	Williston	−0.09	7.70	Moorhead	1.07	Williamsport	B. H. Bronson.
Ohio	+1.2	102	23	Portsmouth	29	6	Hillhouse	69	Bowling Green	41	Athens	−1.33	4.88	Napoleon	0.45	Orangeville	L. N. Bonham.
Oklahoma	+2.1	107	30	Healdton	40	2	Purcell	69	Lehigh	51	Mangum	−1.40	4.82	Arapaho	0.16	Anadarko	J. I. Widmeyer.
Oregon	−2.8	96	2	Detroit	14	10	Burns	70	Burns	28	Bandon	−0.04	5.41	Detroit	0.34	Sparta	Hon. H. Hayes.
Pennsylvania	+0.6	102	23	Hamburg	30	7	Dyberry	64	Saegerstown	47	Cassandra	−1.38	5.31	Phœnixville	0.61	Pittsburg	W. P. Latham.
Rhode Island	0.0	94	17	Providence	42	*	Kingston	57	Providence	37	Block Island	−2.13	0.77	Providence	0.39	Lonsdale	J. Warren Smith.
South Carolina	0.0	105	13	Shaws Fork	41	2	Hollands Store†	62	Spartanburg	34	Charleston	−1.05	9.20	McCormick	0.25	Kingstree	J. W. Bauer.
South Dakota	+5.2	112	12	Forest City	30	5	Frankfort†	73	Wentworth	43	Bowdle	−0.76	7.37	Ordway	0.74	Parkston	S. W. Glenn.
Tennessee	+1.0	100	30	Covington†	35	1	Greeneville	60	Springdale	43	Rugby†	−2.06	6.28	Riddleton	0.30	McKenzie	J. B. Marbury.
Texas	−1.3	110	26	Midland	35	7	Fort Hancock	72	Fort Hancock	16	Beeville	−0.01	11.07	Orange	0.00	Sierra Blanca	D. D. Bryan.
Utah		106	13	St. George	15	9	Scofield	78	Scofield	45	Lake Station		4.00	Scofield	0.00	St. George	G. N. Salisbury.
Vermont	−1.4	96	17	Brattleboro	30	30	Northfield†	59	Woodstock†	50	Burlington	+2.92	6.15	Strafford	0.96	Jacksonville	J. Warren Smith.
Virginia		106	23	Richmond	33	*	Big Stone Gap†	64	Whittles Depot	40	Birdsnest†		5.40	Richmond	0.51	Danville	Dr. E. A. Craighill.
Washington	−2.6	100	2	Sulphur Springs	28	11	Hunters	60	Sulphur Springs	23	Tatoosh	+0.64	6.13	Ferry	0.25	Sulphur Springs	H. F. Alciatore.
West Virginia		103	25	Moorefield	32	1	New Martinsville	64	Nuttallburg	37	Madison		6.78	Parkersburg	1.25	Ella	H. W. Richardson.
Wisconsin	+5.0	99	*	Prairie du Chien†	26	*	Estella†						6.34	Harvey	0.44	Hayward	S. C. Emery.
Wyoming		95	30	Wheatland	30	14	Camp Pilot Butte†	56	Camp Pilot Butte	41	Lander		4.52	Fort McKinney	0.20	Lander	E. M. Ravenscraft.

*Two or more days.

†At other points in the State.



NOTES.

The Roman letters show number and order of centers of low areas. The figures within the circles show the days of the month; the letters *a* and *p* indicate, respectively, the 8 a. m. and 8 p. m., 75th meridian time, observations.

The queries (?) on the tracks show that the centers could not be satisfactorily located.

Within each circle is given the lowest barometric reading reported near the center. A blank indicates that no reports were available.

A wavy line indicates the axis of a trough or long oval area of low pressure.

The dotted shading ( ) indicates fog belts.

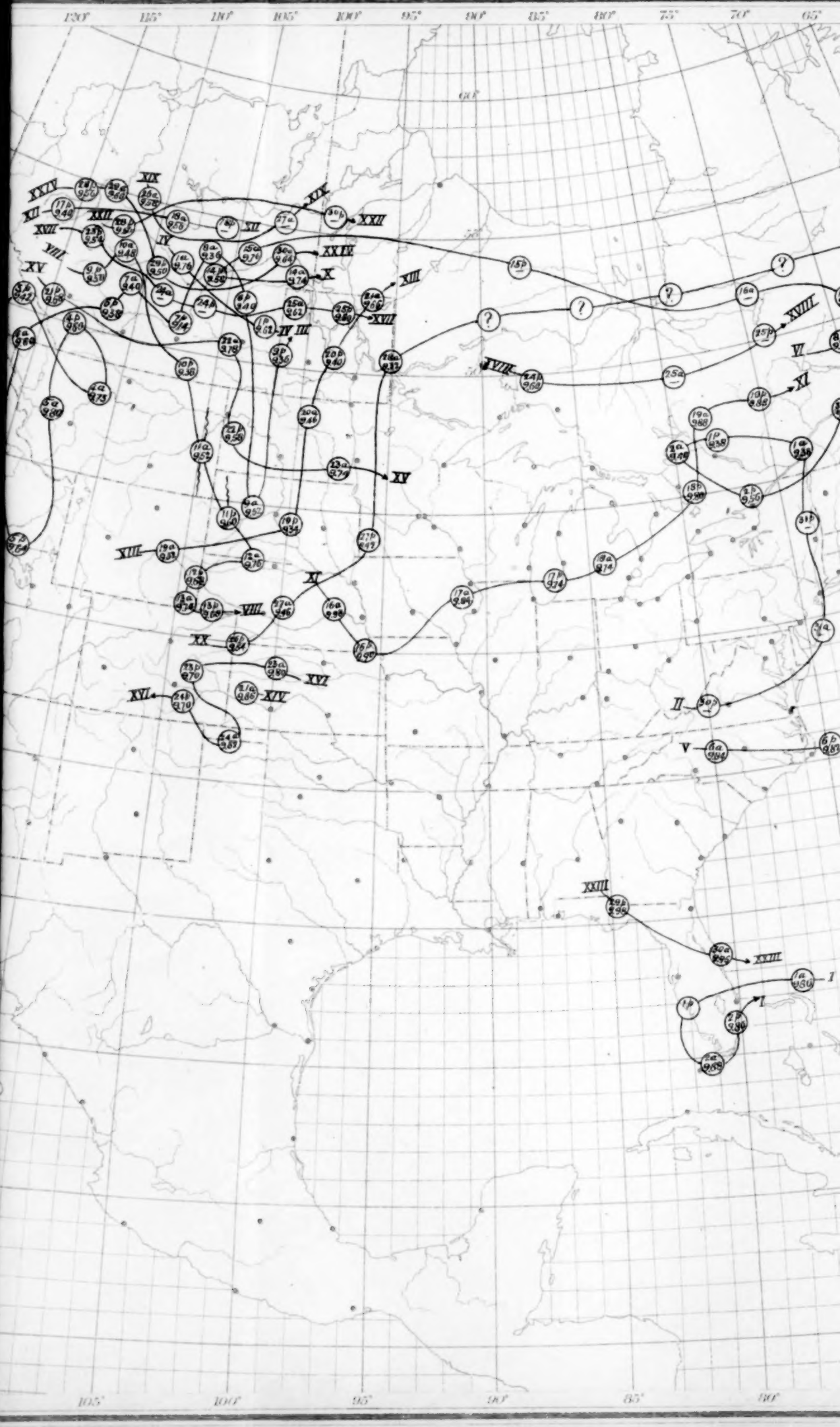
The crosses (× × × × × ×) indicate the position in which field-ice or icebergs were observed.

UNITED STATES WEATHER BUREAU

Statute Miles

Kilometers

Chart I. Tracks of Centers of Low Areas. June, 1894.



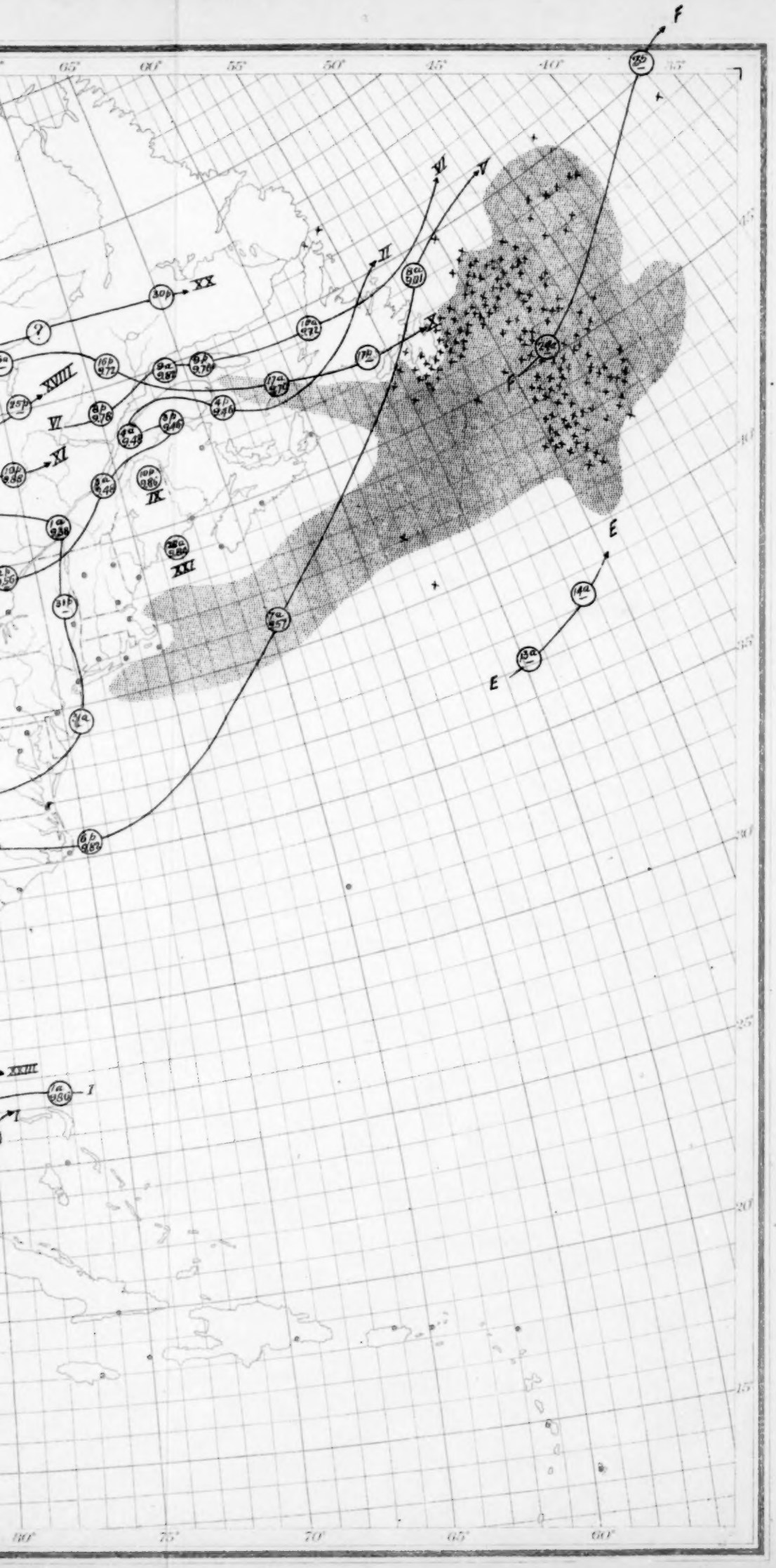
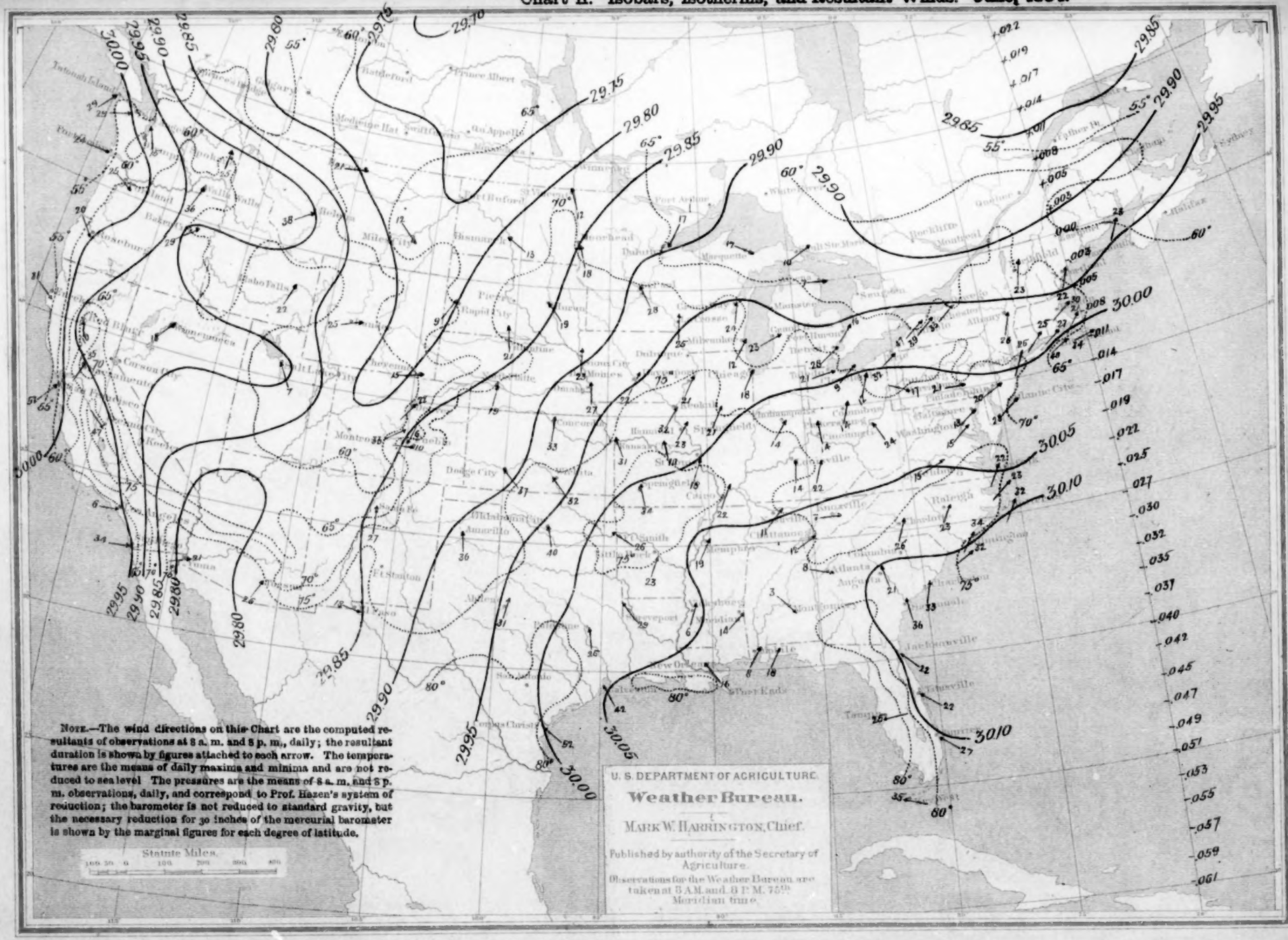

65°
60°
55°
50°
45°
40°
35°
45°
40°
35°
30°
25°
20°
15°
80°
75°
70°
65°
60°
F
E
E
VI
V
II
X
XX
XVIII
VI
XI
IX
XXI
XXIII
I
I

Chart II. Isobars, Isotherms, and Resultant Winds. June, 1894.

Chart II. Isobars, Isotherms, and Resultant Winds. June, 1894.



Note.—The wind directions on this Chart are the computed resultants of observations at 8 a. m. and 8 p. m., daily; the resultant duration is shown by figures attached to each arrow. The temperatures are the means of daily maxima and minima and are not reduced to sea level The pressures are the means of 8 a. m. and 8 p. m. observations, daily, and correspond to Prof. Hazen's system of reduction; the barometer is not reduced to standard gravity, but the necessary reduction for 30 inches of the mercurial barometer is shown by the marginal figures for each degree of latitude.

U. S. DEPARTMENT OF AGRICULTURE.

Weather Bureau.

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Published by authority of the Secretary of Agriculture.

Observations for the Weather Bureau are taken at 5 A.M. and 8 P.M. 75th Meridian time.

Chart III. Total Precipitation. June, 1894.

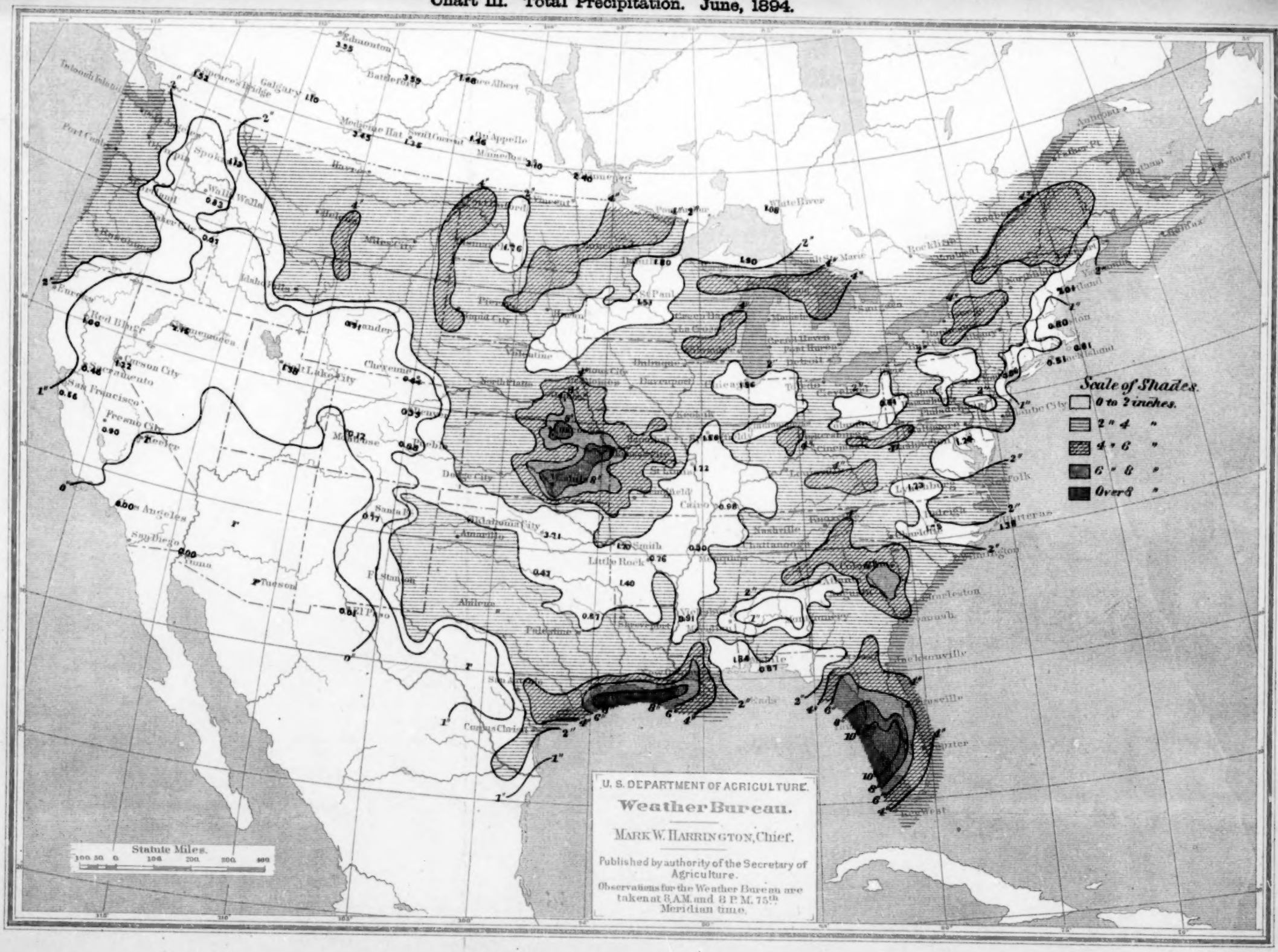
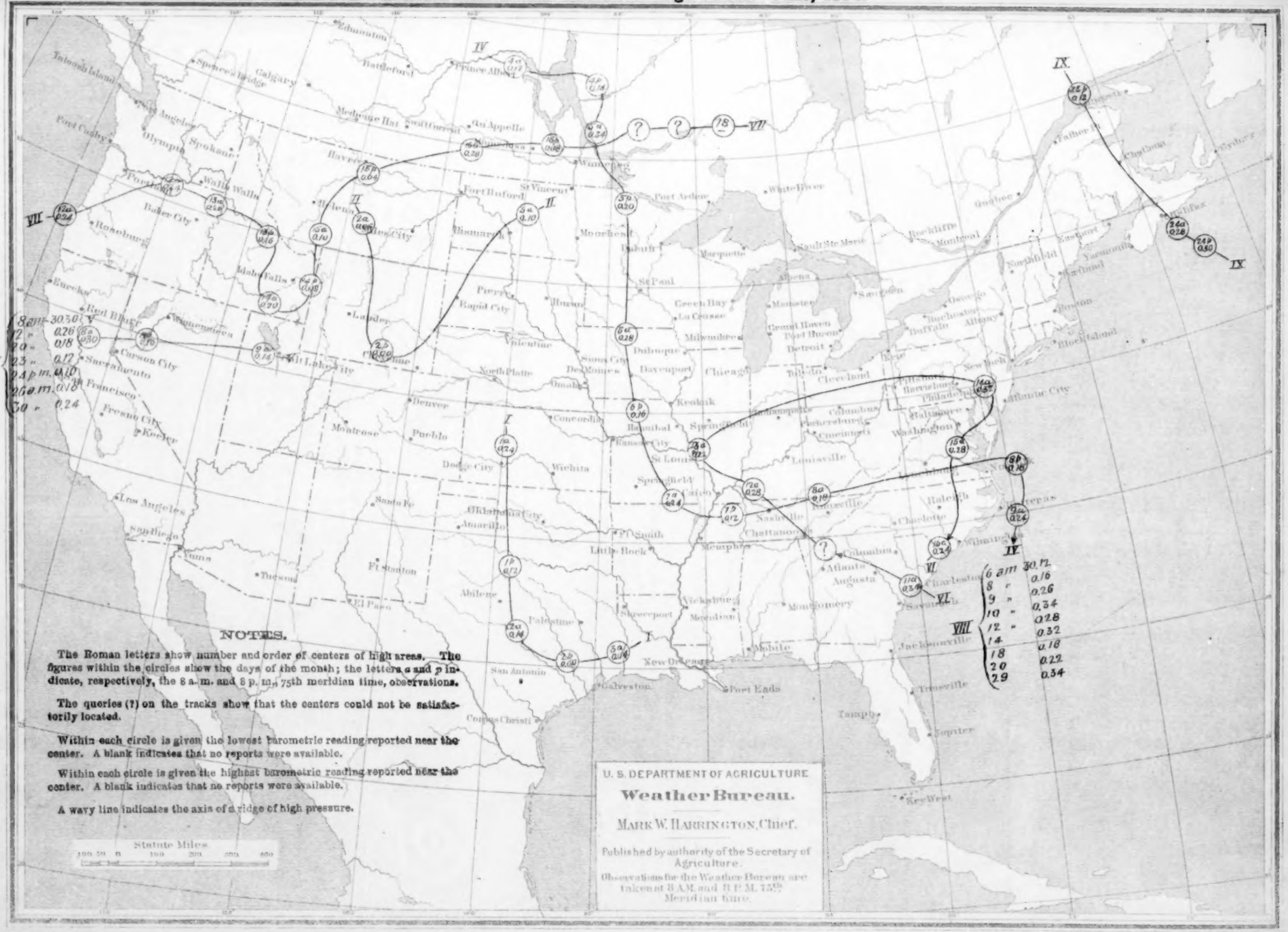

Scale of Shades.
0 to 2 inches.
2 " 4 "
4 " 6 "
6 " 8 "
Over 8 "
Statute Miles.
100 50 0 100 200 300 400
U. S. DEPARTMENT OF AGRICULTURE.
Weather Bureau.
MARK W. HARRINGTON, Chief.
Published by authority of the Secretary of Agriculture.
Observations for the Weather Bureau are taken at 8 A.M. and 8 P.M. 75th Meridian time.

Chart IV. Tracks of Centers of High Areas. June, 1894.

Chart IV. Tracks of Centers of High Areas. June, 1894.


NOTES.
The Roman letters show number and order of centers of high areas. The figures within the circles show the days of the month; the letters a and p indicate, respectively, the 8 a. m. and 8 p. m., 75th meridian time, observations.
The queries (?) on the tracks show that the centers could not be satisfactorily located.
Within each circle is given the lowest barometric reading reported near the center. A blank indicates that no reports were available.
Within each circle is given the highest barometric reading reported near the center. A blank indicates that no reports were available.
A wavy line indicates the axis of a ridge of high pressure.
Statute Miles
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III
8 am 30.30
2 " 0.26
20 " 0.18
23 " 0.12
24 p.m. 0.10
26 a.m. 0.18
30 " 0.24
IV
6 am 30.12
8 " 0.16
9 " 0.26
10 " 0.34
12 " 0.28
14 " 0.32
18 " 0.18
20 " 0.22
29 " 0.34